

THE SCHOOL JOURNAL.

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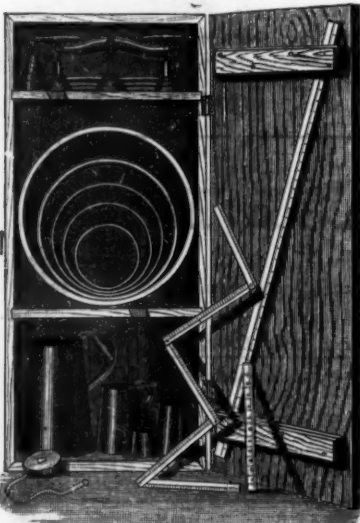
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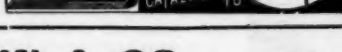
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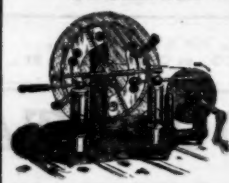
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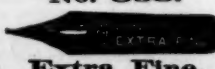
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ESTABLISHED 1870.

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New York, April 21, 1888.

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Prof. Goldwin Smith, the foremost advocate of commercial union between Canada and the United States, is sure that it will finally prevail. Emperor Frederick became so much worse that his son, the Crown Prince, was appointed regent. It is asserted that the railroads have evaded the interstate commerce law in order to favor the heavy shippers. The resolution, proposing an amendment of the constitution of New York prohibiting the manufacture and sale of intoxicating liquors, was adopted by the Assembly. Gen. Boulanger overwhelmingly defeated all competitors in his election in the Department du Nord. The American Exchange in London closed. It is said that an examination of the books will reveal some startling business methods. Matthew Arnold, the poet, critic, and philosopher, died suddenly of heart disease in Liverpool. A report to the New York health board shows that the average annual death rate in the city is twenty-six in one thousand, while in London it is only twenty. Venezuela is determined to spend her best blood in opposing English aggression. Roscoe Conkling died at the Hoffman House,

New York, Wednesday morning. At this writing the death of Dr. Cornelius R. Agnew, the eminent New York physician, is hourly expected.

THE case of JOSEF HOFMANN is one that should be carefully studied by teachers. Although but ten years of age, he is a musical prodigy. It is wonderful that so young a child should play such difficult music. His success is not due to education, for thousands have practiced for years without attaining a measure of the results already reached. Many questions suggest themselves to a student of psychology. Whence did this boy get his genius? Will he continue to grow from his present standpoint, and reach in twenty years what no one has ever attained? What sort of an education should he receive? Is it true that a poet is born, not made? Is it a fact that some children attain maturity of certain powers at a very early age? If at ten he has reached the full strength of his musical manhood, will not his decline now begin? History seems to point in this direction, and show that young Hofmann is enjoying his best musical years, at least it is a fact that if the work of a man is required of him now, his powers will be blunted, and the future possibilities of his success destroyed.

THE engineers of the Chicago, Burlington & Quincy Railroad went on a strike some time since, the reason being not because they were not paid enough wages, but because they wanted a change made in the methods the company had adopted. Other engineers took their places; then the switchmen struck in order to help the engineers; other switchmen took their places. The writer lately came over this road from Omaha to Chicago, and found everything in fine working order; the train arrived on time exactly. Great trouble and expense has been caused by these men. What has caused it? There is but one answer, and that is ignorance.

The school-house stands as a perpetual barrier to disorder, and the acts resulting from ill-judgment. But education is not widely spread in any land, even America. There are plenty of men who can run an engine, but who are poorly educated—using the term in its broad sense. An ignorant engineer is like an ignorant man anywhere; he is at the mercy of a smarter man with a glib tongue. Such are told to "organize;" they join, pay in large sums of money, and then expect the millennium to come.

No argument is made here for or against the rights of employes in general; the point is that ignorance is the cause of the troubles arising from strikes. An ignorant man goes to a meeting of his organization, and is told that if all remain firm wages will be doubled, etc. He acts accordingly; his ignorance is taken advantage of; he pays roundly for his ignorance. As has been pointed out over and over again, it is not education that costs, it is ignorance. Take the cigarmakers, for example; they contribute each year nearly a half-million of dollars, not for their sick, poor, or disabled, but for the expenses of their organization. It does them no good in reality—it is the tax that ignorant cigarmakers pay. Now, if that money were expended, say, as Peter Cooper expended his money, what blessings it would yield!

This leads to the point that we want to reach. We believe the true plan is for engineers to learn their business at a school of engineers; to receive a diploma of fitness. In this way they would have the opportunity to get some breadth of culture, be able to see truth for themselves. Not only this, but the knowledge they would get would enable them to turn to other employment; when their own field of labor was full. As it now is, if there are more laborers in a certain branch of labor than are

needed, they cry out against a reduction of wages, but that is the only remedy.

So that we believe that education is a fountain that will water the whole universe; strikes are the diseases that come from ignorance. How much the world suffers from ignorance!

A TEACHER writes, "How can I get a better place? My salary is small, and the board threatens to make it smaller; my school-house is old, and the people are opposed to building a new one; my pupils are not the best cultured at home, and no better at school; in fact, I am in a poor-place, but I cannot think how I can get a better one." Thousands like you have succeeded; you can. Make the old school-house clean and attractive. Hang curtains. A little encouragement will put the surroundings in order. Flowers can be planted. Pictures can be put on the walls. Whitewash will cover many square yards of dingy wall space. Make the old stove and pipe shine. Be on hand early in the morning and greet the children cheerfully. Get one basin and towel for the girls and another for the boys. You ask, am I to do all this? Begin; you will soon have all the help you need. If you spend a little money you will get it back with interest; it will pay a better dividend than you ever imagined you could get. Study how to interest your pupils. Lead them to be anxious to do what they ought to do. Get out of old fossil ways. Induce the children to do things for themselves. All of these "ways" you will find in the SCHOOL JOURNAL and INSTITUTE. The pages of these papers are full of the best hints. Read the best books that will help you, not too much, but carefully, and practice what you read. Next, interest the people. Do not urge them to come into your school at any time, but invite them to come and see you when you are certain you have something to show them they will like to see. Send them away pleased. Don't run order into the ground. Interest is better than order. Be patient, keep at your work, put your heart in it, and you need not fear concerning promotion. It will come, and so will the pay.

LET a fashionably-dressed, stylish woman enter a New York street car, and a dozen men will jump up and offer her a seat, but let a poor woman come in, and these same men will not see her. A handsome young woman recently accepted a seat in a car, and soon after the poor woman did come in, but all the men were blind. The handsome woman was a lady, and she gave her poor sister her seat; instantly the men jumped up and offered her a seat, which she smilingly but firmly declined to take. She stood holding on to a strap, and the men looked sheepish. There is a lesson here for pupils, although thousands of our readers have, fortunately, no occasion to use street cars. Manners are as valuable in a log cabin as in a palace; in the poorest school-house as in the best one. A polite teacher carries with him a power above all learning. He has the decoration of a nobleman, and under even shabby clothes carries a true heart; for good manners come from good character. Without good character there can be no good manners. Character first; manners will follow by a little direction. Helpfulness, kindness, unselfishness, are elements in a polite man's composition. Inside first, outside afterward. How early can children learn these lessons? As soon as they notice anything. Who can estimate their value? A polite person is a well educated person. But the outside tinsel that glitters is composed of base metal. Its wearer may smile, and smile, and be a villain still. True education makes its possessor a gentleman or a lady; false education puts all on the outside, but leaves within hollow and empty.

COMPULSORY EDUCATION IN NEW YORK STATE.

The measure prepared by a committee of New York state superintendents, and delivered to State Superintendent Draper, for presentation to the legislature, is entitled "An Act to enforce attendance upon the schools, to establish a state school for the reclamation of incorrigible children, and making an appropriation therefor."

The bill enacts that children between the ages of eight and fourteen years, living within the limits of any city or union free school district, shall attend regularly some public or private school, unless their physical or mental condition render it impracticable. It specifies fourteen years or over as the age when children may be lawfully employed to labor, and provides for fines or imprisonment for a violation of this law by those in charge of the children. The fines thus collected are to be added to the public money of the school district in which the offense occurred. It provides for the appointment of truant officers in every city or union free school district, who shall make and revise lists of all children of school age in the respective districts under their charge, with the names and residences of their parents or guardians. These officers will receive from teachers lists of the same sort, and reports each week of absences. Failure of the teacher to report is punishable by a fine. Continued failure of parents or guardians to comply with this act is punishable by arrest. A truant officer who does not perform his duties is liable to removal. Failure of the town or city to remove incompetent officers, and appoint others, will necessitate a forfeiture of the public money of the place.

The bill also enacts that by September 1, 1891, every city and union free school district shall have provided adequate and suitable school accommodations for all pupils of school age, and a failure to comply with this will result in a withholding of the public money until this section of the act is complied with. A suitable amount will be appropriated for this purpose.

Truants and incorrigible children will be committed to a state school provided for them, to be called "The New York State School for Incorrigibles." The bill authorizes the governor, secretary of state, comptroller, state treasurer, attorney-general, and state superintendent of public instruction to decide upon a site and to purchase it. It is to be governed by nine trustees, appointed by the superintendent, who shall have power to discharge any inmate when sufficiently reformed. Inmates may be retained until eighteen years of age. No person charged with crime or misdemeanor will be committed to this school.

Private schools, and all schools, not a part of the public school system of the state, will be required to report to boards of education or school commissioners any facts required by the state superintendent.

All acts and parts of acts inconsistent with this bill will be repealed, and the act, when passed, will take effect immediately.

TRUE WORKERS.

Bishop Huntington said of John Richard Green, the gifted English historian, "He never ceased working. Years before, he had truly, though half lightly, forecast his own epitaph, 'He died learning.' Amidst all the vivacity and the merriment which no inroads of disease impaired, he felt the responsibility of knowledge, and would fain have passed it on before the end came." These words were spoken of a great teacher by a great teacher. Any one is a teacher who "passes knowledge on." The famous historian possessed the secret of the true instructor. He first gained knowledge by constant study, and then "passed it on," even when his body was shattered by disease. Note his persistency in work. True workers are never idle. Everything is turned to account by them. So with true teachers. If the books be closed, they can make a lesson on any object within sight. If they cannot do active school work, they can teach some struggling ones from the sofa. In this greatest of callings, everything depends upon knowing and using one's opportunities.

CONCERNING examinations the *Westminster Review* recently said that "they tend to increase rapidly all over the country educational dishonesty and scholastic sham." We fear that such doctrine as this would not suit the conservative latitude of New York City.

LONDON cockneys are calling this the "eightful year," so bad has the weather been across the Atlantic.

OUR MINISTER TO ENGLAND ON EDUCATION.

The *Private Schoolmaster* says "that in the course of a brief but pleasant speech Mr. Phelps managed to say one or two good things. It is true that he lacks the culture or the grace of diction that it is Mr. Lowell's privilege to possess; but Mr. Phelps is an eminently successful man, and he is consequently worth listening to when, in a plain and manly fashion, he tells us his views on education in general. As might be expected, the representative of the Great Republic of the New World regards education as the best means of giving to men and women that most valuable of gifts—personal independence. This is felicitously described as 'the capacity to stand on their own feet and look the world in the face, and take care of themselves and those who belonged to them.' He said that for the ordinary daily work of the world he preferred the modern education to the old. Without disparaging the great value of classical and philosophical learning, he labeled it as the luxury of education, and not its necessity. Necessities, he contended, came first. The value or brilliancy of a diamond was not disputed when one said that a man first wanted a coat to his back before he needed a diamond pin. Wine was not the less choice or good because bread was a prior necessity. When he proceeded to eulogize the system of education that replied to the student's enquiry, 'What can you teach me?' by the other question, 'What do you want to know?' Mr. Phelps, we consider, hit the nail right on the head and indicated a course it would be eminently prudent to follow. In some phases of education, such a plan is already accepted; but the principle has yet to be recognized generally. At all events when Mr. Phelps has something more to say on education, we shall be glad to hear him, and we trust that it will not be long before we shall have swept away the more obvious anachronisms of our somewhat haphazard educational system."

MANUAL TRAINING IN SPRINGFIELD, MASS.

Industrial education has made a good beginning in the public schools of this city. Four years ago sewing was introduced into the grammar schools, where instruction is given for one hour a week. It is very popular with the girls and their mothers. The study of form by clay modeling came next, and was soon followed by paper-cutting in all its various forms, in connection with drawing. About two years ago classes from the higher grades of the grammar school, and the lower classes of the high school, were organized for wood-working. They devote an hour and a half a week to it under a competent mechanic as teacher, who follows a regular course of work, maintaining strict discipline. Several of the public school teachers, take lessons on Saturday. New and larger quarters have been secured for these classes and will be occupied soon, when it is expected that working in metals will form a part of the course.

Drawing is taught in all the schools in a very practical manner, under the supervision of a first-class teacher.

In speaking of Superintendent Balliet, of Springfield, Mass., the new superintendent of schools, the *Springfield Union* says: "Thomas M. Balliet, who recently assumed the duties of superintendent of public schools, was born near Mauch Chunk, Pa. He received his early education in the public schools of Pennsylvania, and before entering college he taught for two years in a country school and was teacher of mathematics in an academy for a year. He was graduated in 1876 from the Franklin and Marshall College at Lancaster, Pa., with the highest honors of his class, and with one of the highest grades of scholarship ever attained at that college. After a year's principalship of the high school at Bellefonte, Pa., he took a post graduate course at Yale College, making a special study of the Semitic languages and of Greek. He also, while at New Haven, studied theology. After completing his studies at Yale, he was for three years teacher of Latin and Greek in the Keystone Normal School at Kutztown, Pa., afterwards superintendent of schools in Carbon county, Pa., and for several years instructor in the Cook County Normal School at Chicago, Ill. In 1885 he was elected superintendent of schools at Reading, Pa., where he now is."

Superintendent Balliet has done a good deal of work as a lecturer at teachers' institutes in many states, and has been prominently connected with the summer school of methods at Saratoga, N. Y.

The School Committee's Report of the Springfield schools says: "In the election and acceptance of Dr. Balliet, the services of a distinguished teacher, experienced director and scholarly gentleman are assured. We

may also congratulate ourselves on the significant fact that leading educators of Massachusetts welcome his advent in assuming the direction of the public schools of Springfield, and anticipate the help of his counsel in their work for the advancement of public school instruction."

MASSACHUSETTS is calling for new education men to direct her institutions. Supt. Balliet has been chosen for Springfield; Supt. Meleney, for Somerville; and Prof. G. Stanley Hall, for Worcester's Clark University. It is but a few years ago that, at the word "Quincy," as pronounced by Supt. Marble, the Massachusetts State Convention, jeered and cackled with huge delight. Supt. Dickinson's cheek reddened with shame and mortification; he half rose and said, "This is too bad;" he saw there was truth in the Quincy utterance. Massachusetts too has been finding it out. The new president of Clark University, Worcester, Mass., is to be G. Stanley Hall, Ph.D., now professor of psychology and pedagogics in Johns Hopkins University, Baltimore. No man could have been chosen that would more gratify the new educationists of the country, or better represent them. He has been outspoken for many years for reform, and in the very direction the new education men have pursued, the psychological. He has made addresses at several of the meetings of the National Association, not because he voiced its sentiments, but because he was a member of the Johns Hopkins faculty; this was too important a position to be ignored. But gradually Stanley Hall has won recognition from among the text-book worshippers.

We congratulate the trustees of Clark University, upon their choice of this sterling man, this broad and independent thinker. We predict that it will be an appointment sure to give the institution a higher standing. Stanley Hall represents a high, and broader culture, a philosophic education. There are enough colleges that swear by text-books; some are wanted, where the laws that are at the foundation of our growth and development as human beings can be observed and followed. The Johns Hopkins University stood on an independent platform, and asked simply, "What is Truth?"

It gathered men who were truth-seekers; it made its students such. It was fortunate in being able to have the money to draw together men like Stanley Hall as instructors. If Clark University will do this, too, will be a success.

This is the ground the new educationists stand on. They demand simply the truth in education. They are ready to welcome all who make this the foundation article in their creed. They see the spread of the light in Massachusetts with unfeigned pleasure.

SUPT. F. B. GAULT, of Pueblo, Colorado, for several years in charge of the schools in that city, has accepted the superintendency of the schools of Tacoma. Mr. Gault will be missed in Colorado, where he has been a most successful and faithful worker. His record in Iowa before he went to Colorado, was excellent. We congratulate the citizens of Tacoma in securing a man so able by nature, and so thoroughly prepared by education and experience, to take charge of their educational affairs.

THE *London Journal of Education* says, that "education should have some definite relation to the life, interests, and occupations of the individual." Doesn't this look towards the introduction of industrial training?

MR. THRING of England once said: "Teaching is not possible, if an inspector is coming to count the number of bricks made to order."

WHICH is worse, payment by examination results, as in London, or payment by attendance, as in New York?

SIR PHILIP MAGNUS, by the way, a good thinker, recently said: "The time spent in teaching Latin to boys who leave school at about the age of fifteen, is in nearly all cases, absolutely wasted. I am convinced that no great improvement will be effected in our middle class education until Latin ceases to form part of the regular curriculum."

BRONSON ALCOTT was a vegetarian, and often criticised meat-eaters harshly. To one of them he declared one day that the eater of mutton becomes a sheep, the eater of pork becomes a hog, etc. "And is it also true," interposed the other, "that eaters of vegetables become small potatoes?"

BRIEF ITEMS.

DR. S. A. BAER, late of Florence, S. C., has been tendered the superintendency of the Macon public schools, Georgia.

EX-PRESIDENT WHITE, of Cornell, has been chosen to succeed Professor Asa Gray as regent of the Smithsonian Institute.

THE Senate of Glasgow University have elected Prof. Max Muller to be the first Gifford lecturer on natural theology. The tenure is for two years, which may be renewed once only, the lecturer giving at least twenty public lectures a year.

PROF. MARY W. WHITNEY, who has taken Professor Maria Mitchell's place at Vassar College, is on alumna of Vassar, and not of Harvard, as has been stated. She has studied, however, at the Harvard University.

PROF. WM. MCKAY is principal of the Mt. Holly, Arkansas, High School. He is a thorough scholar, and is making a great success of the school.

THE secretary of the North Carolina Teachers' Assembly has engaged the services of Frank Beard, the great blackboard artist, for their coming session at Morehead City. Mr. Beard is extensively known as former cartoonist for the New York *Judge*, and his work in the cause of education in his peculiar line has elicited much admiration.

REV. D. L. HUNN, of Buffalo, N. Y., is the oldest living graduate of Yale. He is ninety-eight years old.

REV. N. D. FANNING is president of Jamestown College, Dakota. The college has an enrollment of seventy pupils.

LIEUTENANT COLONEL CHARLES E. HYATT has been elected president of the Pennsylvania Military Academy at Chester.

PRES. W. H. PAYNE, of Nashville, Tenn., is a warm friend of literary societies.

MINNEAPOLIS has an excellent training school under the instruction of Miss O. A. Evers.

STATE SUPERINTENDENT HENRY SABIN, of Iowa has issued an Arbor Day Annual, appointing April 27th, the birthday of General Grant, as Arbor Day. The Annual contains many choice selections to be used in the exercises of the day. It asks that each school plant a tree or shrub, as a tribute to Miss Alcott, and suggests that groups of trees be arranged, to be known as Presidents' Group, Poets' Group, Patriots' Group, etc.

EDUCATIONAL Leaflet No. 10, from the Industrial Educational Association, this city, is on "The Manual Training school," taken from *Higher Ground*, by Augustus Jacobson. It expresses in a few words many central truths.

A LARGE proportion of the county, city and borough superintendents of Pennsylvania met in convention at Harrisburgh, April 11 and 12. Papers on "Institutes and Their General Management," "Examination and Qualification of Teachers," and "Selection and Transfer of Teachers," were presented. "The Local Institutes," and "Unity in Computation of Percentage of Attendance," were among the incidental subjects discussed, and Governor Beaver gave a fine address on "Arbor Day" and "Industrial Education." The state is taking hold of the latter subject in an earnest, practical way. One of the commissioners, appointed to consider the matter, is now in Germany gaining all the information possible on this special branch of study.

The meeting showed that there is a growing sentiment in favor of having county institutes at different dates from September till Christmas, rather than crowded into one or two weeks. The New Education received a share of attention at the meeting. One of the speakers said: "Last year we spent thousands of dollars at our county institutes on the subject of 'Physiology and Hygiene,' this year it will no doubt be 'Industrial Education,' and next year 'The New Education.'" Next week we shall give a brief report of the proceedings. Altogether the convention showed that the Keystone State is making good progress. Her educational officers have been for many years as earnest and devoted a body of laborers as our country affords. This meeting evinced an increasing interest in the live topics of to-day.

THE American Institute of Instruction, believed to be the oldest teachers' organization in the world, holds its annual meeting this year at Newport, R. I., July 9 to 13, 1888. Dr. J. G. Fitch, of London, the distinguished author of "Lectures on Teaching," will speak on the "Evolution of Character;" Nicholas Murray Butler, of New York, on "Manual Training;" Prof. A. E. Dolbear, of Tufts College, on "Recent Advances in Electrical Science;" A. E. Winship, of Boston, on "Genius and Education;" Edwin D. Mead, of the Old South Historical Course, Boston, on the "Importance of the Study of History;" President L. Clark Seelye, of Smith College, on the "Higher Education of Women;" Miss Bertha Hintz, of the Boston Normal School, on "Drawing in Schools;" W. H. Lambert, of Fall River, on "The Extent and Character of the Study of English Authors;" and J. B. Sharland, of Boston, on "Music in the School Room."

THE publishers of TREASURE-TROVE, so well and favorably known to teachers, because taken by so many of their pupils, offer several valuable prizes to young writers as follows: First prize, \$100; second prize, \$50; third prize, \$30; fourth prize, \$20; fifth prize, \$20; sixth prize, \$15; seventh prize, \$10; eighth prize, \$5. The last four are to be in books selected by the winner from the TREASURE-TROVE Library of 1,000 volumes. Writers must be subscribers to TREASURE-TROVE, member of some school and under 18 years of age. Principals should send stamp for circular which will give full particulars, at once. See another page for advertisement. Address, TREASURE-TROVE, 25 Clinton Place, New York City.

WE have received the last annual report of Supt. Wm. E. Anderson, of Milwaukee, Wis., in which are many practical remarks upon reading, writing, geography, and language—those time-worn branches, in the teaching of which so much nonsense finds its way into the school-room. There is in the report much that is deserving of attention, and that will help those who read it.

THE NEW EDUCATION IN VERMONT.

The following extract from Superintendent E. L. Temple's recent report of the Rutland schools show what good work is being done there and the gratifying results:

"For the success attained in the experiment of training teachers, as well as pupils, in the best methods of modern instruction, we are very largely indebted to the faithful, experienced, and highly intelligent labors of the supervising teacher of these methods, Mrs. J. M. Dewey whose entire time has been devoted for two terms to the instruction of the teachers of the lower grades. There has been much to unlearn on the part of teachers, and their work has been harder than formerly, but it has been done cheerfully and with a heartiness on the whole quite remarkable, and I know of no teacher who would willingly go back to former methods. The effect upon scholars is electric and inspiring: and the constant play of the mental faculties, the varied change of position and movement, the use of calisthenics and music, the correction of written work by one another, and the employment by the younger pupils of pleasing objects of geometrical form and of varied size and color in working out their own combinations, have all proved wonderful aids, even to deportment and discipline, and have greatly lessened weariness.

"Spelling is never taught without knowledge of definition; in reading, much time is taken for sight reading and supplementary work in continued stories like Robinson Crusoe, the Arabian Nights and the stories in the *St. Nicholas Magazine*; writing and drawing are taught with regularity, frequency and system, showing already most excellent results; in geography, the use of globe, molding boards with sand, individual outline maps, etc., makes the study very real; and at the beginning of arithmetic, all the properties and combinations of each number are acquired with great familiarity before proceeding to the next, while mental work, constantly practiced, almost supersedes the necessity for a text-book. Language as a means of expression (not technically considered) comes in for a more generous share of treatment, many other topics becoming at the same time language lessons by their mode of development. Also, no day passes which does not bring some definite, even if incidental, instruction in the principles of good morals and gentle manners. And this is as it should be: for no system of education is worth perpetuating which ignores the training of the moral side of the child's nature, or unduly subordinates it to the intellectual.

"These are only samples of the character of the teach-

ing referred to, which leaves as little as possible to the text-book, and proceeds naturally from the concrete to the abstract. Its results are apparent in the redoubled capacity for acquisition and reproduction shown by the pupils."

CONNECTICUT STATE REPORTS.

The annual report of the board of education of Connecticut, and the report of the secretary, Charles D. Hine, to the board, together with the school laws of the state, statistical and other matter, are contained in a volume of over five hundred pages. Special attention is given to a consideration of the truant law and the methods of its enforcement. The law prohibiting the employment of children under thirteen would naturally increase the number in attendance, but so many advanced with a bound from eleven or twelve to fourteen, that in few schools has any increase from this cause been noted. Without doubt many children are escaping the provisions of the law relating to employment and attendance through false statements. It is suggested as a remedy for this to take the census in September or October. The reduced attendance is due in part to the opening of a number of private schools in large towns. The public schools have, however, maintained an undoubted superiority, and so long as this is the case they will attract the great body of the children. The efforts to secure compliance with the law relating to attendance without resort to severe measures, have not resulted satisfactorily. Notices and admonitions would cease to have any effect if it were not known that penalties are often imposed for violation of this law. The principal opposition to the law comes from parents who, usually from pure avarice, continue to seek to place their children in factories before they legally have a right to be there. Now that employers generally understand its provisions, there is less occasion than formerly to invoke its penalties.

The proposition, before the last general assembly, to put the entire management of schools into the care of the towns failed, but the increased support of the movement gives rise to the hope that before very long the state will adopt the policy of a single instead of a double management of its schools. The law now provides for the eligibility of women to certain school offices. In some places they have served on boards of school visitors, and many localities would doubtless be benefited if competent women, ex-teachers and others, could be induced to serve the public in educational trusts.

The New Britain Normal School is steadily improving in the quality of its work. In the attic story have been placed a commodious workshop and a well-equipped gymnasium. In the shop the pupils are trained in the use of carpenter's tools, and in the gymnasium special attention is given to the health of the pupils. The sum expended in 1887 was \$1,768,371; cost for each child registered, \$13.12; cost for each child in attendance, \$20.89; number between four and sixteen years of age, 153,260; number of different pupils in the public schools 125,794; percentage of attendance, 82.07; percentage of attendance in schools of all kinds, 92.48; average wages of male teachers, \$68.82; female teachers, \$38.50.

THE PSYCHOLOGICAL BASIS OF EXPRESSION.

Abstract of lectures given by Col. Francis W. Parker in the Hall of the Industrial Education Association, New York. Reported by E. L. Benedict.

II.—(Continued.)

Let us look at the effect of this motive of giving to others in developing power.

I am thinking to give.

I am trying to realize what is in my mind. Influenced by that motive, I work to express my thoughts. I find that my work does not equal my thought. I look again at the object. I repeat my work until it equals my thought.

When we do our best, that is a step toward something better. One reason why some teachers are not doing better work is that they have never yet done their best. If they would just do that once they would rise to something better.

But suppose we use the wrong motive in education. Suppose, instead of allowing the child to exercise this grand motive of giving, we say to him, "If you do this the best you can I will reward you. I will give you a piece of paper." Suppose you sever his activities entirely from the normal, unselfish motives, and appeal constantly to the selfish. The mother begins this when she buys the child to take his medicine. He comes to school, and the teacher buys him. He goes to college, and is bought with the "highest honors." He is bought

from childhood all the way up till he leaves college; then he stands out before the world and says, "Here I am, an educated man. Ladies and gentlemen, what will you give for me?"

III.

EXPRESSION BY CORRESPONDENCES.

Let us look at the special functions to be developed by each of the four modes,—making, modeling, painting, and drawing. (I give them in this order, for it seems to me to be the natural one.)

Making (there is no existing term that will answer for it) means expression of a concept in actuality. The object expressed, or the result of the expression, corresponds to the conception. The correspondence is exact when the skill equals the concept.

Making differs from the other modes of expression in that it necessitates a knowledge of all the parts of the object to be made. There must be an analysis of the object, and a corresponding anatomy of the conception. Each part is to be adjusted to the whole so that it may correspond in length, breadth, and thickness.

There is no form of expression which requires as close observation as this form. So we see here is a great stimulus to accurate observation.

As an incentive to this work we do not try to convince the child that by doing it he will grow by it, that he will get from the exercise power that will help him through life. We know that is what he is doing, but we appeal to his motive of giving to others. We ask him to make something for somebody.

The question of manual training is a question of the development of being. It is not that we may be better served, that the world may have better mechanics. It is not the question of preparing a man the better to earn his bread and butter for a few years. This is the lowest possible motive. The question of manual training centers around the development of power possible through this mode of expression.

The selection of objects to be made is of prime importance. Some begin with the making of joints, but there is no purpose to the child in a joint. He must have a whole to make, or there will be no motive behind his work. The kind of work that a child can put his soul into must be something which he sees will be of use to others. We had an experience of this last Christmas. The children were encouraged to make things for Christmas presents, and the delight they took in this work, the close observation, the attention, the care and cleanliness that that motive aroused in those children was wonderful.

Any teacher trying this experiment for the first time will make discoveries which will lead her to see what an intense love children have for work that they can do with their hands. Nothing else so absorbs and holds their attention. From such activity as that comes power. The effectiveness of any kind of intellectual training depends upon its power to hold the attention.

Modeling requires the presence of the whole concept. The more the concept equals the object to be modeled, the more power there is to model. The model is to show by partial correspondence what the whole is.

Modeling is more difficult than making. It requires closer observation; a higher power of expression. Here, having the whole concept in mind, you express it by a partial correspondence. The task is to express so that others will see the whole from the part you have presented. When you look at a model you see first a partial correspondence, then you see the whole to which the model corresponds. Modeling grows out of making.

In *painting* the endeavor is to express the concept through one group of attributes,—through color.

Children love color. The intense delight they take in mixing their color, and the attention they give to the object they are trying to paint can hardly be equaled by any other mode of expression.

Watch children who are painting, and then watch those who are studying words, and notice the difference. The one is happy, his mind intent, his attention strained to the uttermost. The other is—what? Surely just the reverse.

Drawing is the outcome of the preceding three. When a child draws a flat copy he draws an object—what object, pray? His painting may be crude, his modeling may be crude, they are simply the indications of his concepts. What is the concept here?

Place before one child a fish,—the real object—and let him try to draw it. Let another draw a fish from a flat copy. Which one will have the clearer concept of a fish? Which will have best cultivated his observation?

Flat copy drawing has been necessary, and pointed to something higher. So far all very well. But it does not develop power of observation. It prevents the formation of the real concept.

I visited a school once, and was shown in the room where the children were drawing. The windows were full of flowers,—beautiful things that delight every child,—and the children were at work on flat copies. Would it have been possible for that teacher to see what she was doing! With a world full of beauty that would arouse and hold their attention if they were but allowed to look at it, and the children fastened down to lifeless flat copies!

The highest use of drawing is to strengthen the powers of observation. Thus we can trace a growth in the development of the power of conception through these four forms of expression. Each gives additional power. Each successive one is a test of the preceding. The test of making is seen in modeling; that of modeling in painting; painting in drawing.

EXPRESSION THROUGH SYMBOLS.

From a general view of these four forms of expression, let us proceed to another, that of expression by language, or symbol.

First there is no correspondence between a word and a concept. There is a theory that oral language sprang originally from similarity of sound, and written language from drawing, which in turn was a crude method of expressing thought by partial correspondences. Thus there appears to have been an evolution of one out of another.

But our words now have no correspondence with the thought to be uttered. The enunciation, articulation, pronunciation, and accent of spoken language, are all extremely complex. Most people live and die without being able to analyze words by sounds.

The child masters this vast complexity of language, under the influence of motive, the desire to express thought. The more intense the child's desire to express his thought, the more intense his conscious activities, and the more quickly will the word be learned.

All symbols are learned entirely by imitation. If the child has the right pattern, he will reproduce the symbol correctly. He learns by imitation all this complexity, first by the motive to express what is in him, and the secret of his learning the word is, that it comes to him in the white heat of his conscious activities.

The child sees an object; he has a great anxiety to know what it is; the name is given him, just then when his desire is greatest, and he learns the word for life.

Then that marvelous mechanism of the physical organization, the voice is called into exercise, to give expression to the word, that he has heard. He tries to express it exactly as it is formed in his concept.

What is expressed by language that cannot be expressed by these forms? Judgments and classification. Language is necessary for the expression of these. Language aims, in its sequence, to express what these other forms cannot.

Growing out of oral language is the written. This, too, is learned by imitation. The child learns to make the symbols as he sees them. They are the utensils by which he is able to express his thoughts. But, the motive he has in acquiring them, is his desire to give to others. Any other motive is abnormal.

In making, there was absolute necessity for the thought. There was no chance for sham. He must have the thought before he tried to express it. And in modeling and painting, and drawing, except in drawing flat copies, there must be the thought behind the expression. But when we come to symbols, a child may learn the symbol without having the concept for which it stands.

Economy of action comes from the intensity of the thought. Here is the secret in teaching reading.

Why should the child read orally? So that he may read to others. This is his motive. You have heard reading where the child read to himself, or to his teacher. Or perhaps he did not read to any one. He merely pronounced the words.

The motive in reading should be the desire to read to others. This desire absorbs his mind and controls the action of the muscles. The body naturally conforms to the desire, is governed by the thought.

Allow a child to read to himself, or to pronounce words, and you destroy this power of reading to others. Make any one of these an end, and the main thing is left. If you make pronunciation the end, the thought goes. If the child must stand up and think how to pronounce words, he can not think of the thought he is uttering.

The body adjusts itself in accordance with the thought expressed. The mind and soul conform to the action of the body. The true office of elocution, instead of developing an abnormal voice is to develop the soul.

THE LAWS OF EXPRESSION.

The first law of expression is that *only by the best you do the better*. In drawing the effort is to make the skill equal to the thought. As the process of observation goes on, in doing your best the concept grows, the power to conceive is enhanced. (Children love the teachers who make them do their best.) The second law is, *the least possible physical effort necessary for the expression*.

Any thing which requires physical effort in the least is a strain upon the attention. It robs the mind of just so much power to grasp the thought.

This doctrine of economy of power is a great one. Train the child to hold the pen so that he can write or draw in the easiest possible way. Any rigidity in muscle is an obstruction to thought. Any attention to the hand or the arm, robs one of the power to think.

The elocution of the past was a deliberate training to rigidity of the vocal organs. It absorbs the mind in the organ by which the thought is given. If a person in speaking thinks of his voice, the hearers will think of his voice and nothing more. Sometimes the voice is injured—in some heathen countries among savages, by placing a girdle around the waist, and compressing the muscles that are closely connected with the vocal organs.

Rigidity of muscle is seen in requiring children to sit straight and stiff in one position, or to stand with their toes on a line. Rigidity of muscle means rigidity of mind and rigidity of soul, always and at all times.

A principal once said to one of his teachers, "When I go by this room, I don't want to hear a sound, your pupils must be still." That man's soul had become rigid. It is nice to have a quiet school, but it is the quiet of the grave.

IV.

THE QUESTION OF ECONOMY.

Economy in growth is the concentration of all modes to one purpose,—the development of power.

Painting is an indispensable means in the economy of growth, properly used. The child is a born naturalist; he loves to study plant and animal life. He is interested

in observing a leaf or flower. How can he best observe them? By painting them, I think.

Some may say, "Oh, but it takes so much time!" "We have no time for it!" But instead of taking time it is an economy of time. It is using time in the most economical way. Just as far as such work controls thought it enhances the power of thought. Drawing and painting, modeling and making are means for the developing the power of continuous thought. They should be the implements of every teacher. A special teacher means robbing the regular teacher of her lawful means of developing her pupils.

Look on the other side and see what has taken the time of the children in all the history of the schools.

When drawing was first put in the schools it was taught by itself, and for itself, and in itself. So physiology has come in, and temperance, (by and by we shall believe that the schools have nothing to do but to develop character.)

Each new study as it came in was a burden, overloading and crippling the whole. The truth is, each means should go toward the center, instead of radiating from the center. Herein is the economy of power.

Drawing should be looked upon as a great aid instead of a burden, and should be used at every step. But when we make the means the end, then comes failure. When the handsome drawing book to show to the inspector becomes the end, then the child is sacrificed to the drawing.

The child is the offering she makes to Moloch in order to gain her "per cent." She wants "good" or "excellent." What blessed words to use for so base a purpose.

The idea of marking the intellectual products of children! No scale was ever made that was capable of estimating the true value of teaching.

Look at the time that has been given to spelling and grammar. Does it pay? Do we get a sufficient amount of mental development from them to pay for all the effort we have given to them? We must remember that language is a means, not an end.

Grammar is simply the question of whether we ever need to use form without thought. To require a child to make a sentence with this or that word in it, is a great extravagance of time. If you develop the thought necessary for the pursuit of these other studies, the words and sentences required will be sufficient for the learning of the language. There is a time when he learns the science of language in the high school.

Reading and writing can be, and should be, taught as incidentals to development.

For instance,—the child is busy observing an object. When his mind has reached its greatest degree of activity the word is written on the board, and the association is made instantly and for all time. It comes from the intensity of the conscious activity.

In this way every word we attempt to teach may be taught as an incident to development. To be taught as an end takes time, and gives rise to many failures.

If you make conscious activity the end, and aim only to present words and sentences as they come to be needed by the child to express his thoughts, then you are following the natural method. Some people object to this term "natural." What is natural method in teaching? Nothing more than presenting those conditions necessary for growth. Natural growth is the working out of the design of God in us.

SPELLING ONLY A MEANS.

One law of expression is that the minute the child has a thought, that minute he is anxious to express it. What does he need in order to give it? The form of the word, and something about the direction of his hand. What is spelling? Simply correct form of expression in writing. Does the child need any more drill than enough to express his thoughts by his hand? If spelling is made an end—if it is taught for itself, by itself, and in itself, then there must be drill. The teacher must use the spelling-book if she is incapable of developing thought.

But will there be words enough? Will the child learn words enough if he writes only those he uses in expressing his thought? Think of the vocabulary necessary for the development of the subject of geography. When you learn all about the earth's surface, how many words are necessary? You will find that you will have words enough when you develop thought. But if the child is put to learning the names of rivers, he must have the spelling-book. Then the question will be, will he ever need the words he learns? The time to learn to write words is when he has the desire to express something. Then put the means of expressing it in his hands.

Not words enough? Take history and arithmetic. Look at the words they call for. The trouble is not that there are not words enough, but that there is not thought enough.

Another question is, will there be sufficient repetition? That depends on the intensity of the thought. The word will be fixed in his mind the moment he tries to give it to you, if the thought is behind it.

But some teachers say the child never should write until he has learned to write (i. e., by learning to make the letters one at a time as per copy books.)

I did that kind of work once, and I found I was robbing the children of precious time. I have seen children that could write beautifully in their copy-books, but when they tried to express their thoughts in writing, it was far from beautiful.

"But the writing will be crude," some say. Of course it will. Crudeness is the secret of success. It is not the letter, but Johnny, that is to be developed. The only question is, has the child done his best? The child should never be praised for results, but for doing his best.

The child will always be delighted in expressing his thought. There is no place or need for spelling or sentence-writing without the thought.

TEACHING EVIL FOR THE SAKE OF GOOD.

Never allow a child to see a wrong form. It takes up time, this teaching evil for the sake of good, and the result is just the contrary of what is wanted.

Teaching a child false syntax, for instance,—teaching a child false syntax!—is one good way of wasting time. A child comes to school with a few idioms, perhaps, and in order to correct these, you go to work and teach him all the wrong forms in the English language.

A law that applies just here is—whatever enters into consciousness has a tendency to stay there. When you have taught a child what is wrong, it will be just as likely to come off the end of his pen as the right. All the words which we have ever learned to misspell, we learned to misspell.

Teaching evil for the sake of good is wrong; the moral and intellectual nature of the child shows it. It would be a tremendous economy if we would let the wrong severely alone. The wrong the child experiences will be enough. If you correct that, it will be sufficient. The little soul points right up to truth and right, if you only give it a chance. If wrong comes in, then deal with it, but do not bring it in. You have no need to tell a child what is evil. Teach the good, and let the evil alone.

(Question from audience.) Is it not necessary sometimes when a child persists in making a letter incorrectly, to show him his mistake by contrasting his form with the correct form?

No, I think not. The law holds true. But if I found that my skill had not been equal to teaching him in this way, then I would put the correct form on the board, and let it remain there a few days.

(Another question.) How would you make a class of sixty children write for the first time under the influence of the thought?

I would not have a class of sixty children. The day is coming when no primary teacher will have more than thirty children, while the master in the grammar department will have a full complement. The best teacher with the highest salary should be in the lowest grade. There the greatest artist is required.

But to answer the question, I should divide the roomful of children into groups. I would let one group paint, one model, one work with pasteboard, and one make something perhaps while I was teaching the other group. There will be no trouble about the order. You will have the proper stillness, the stillness of work, and these modes will furnish the work.

If the child is given these modes of expression in their proper order, his soul is left free for its fullest development. He is exercising himself upon that which is best suited to his life and growth. Is there not a pleasure in teaching when this kind of work is done?

THE QUESTION OF DISCIPLINE.

If the child grows as God intended he should grow, striving and striving to express the thoughts that arise by these means, will not that which comes to him be sufficient for the development of his powers. Need there be any punishments or rewards for children working out their destiny under such conditions.

Children trained in this way through the kindergarten and primary school, will grow to love their work, their minds will be absorbed in it, and not one second of time need be wasted in "disciplining."

We had a bad boy in our school once. He was one of the worst of boys. It seemed as if the very spirit of the infernal regions was in him. He loved to injure his fellows. But gradually, under the best methods and means that we could devise, there began to be a change. To-day, higher than all personal ambition, higher than all hope of reward is the gleam of love in his eye; he loves his work; he loves to work for others.

If we work for the highest development of the children, and use for that the best means, we will have results that will bless us. The matter of government then will become a far easier matter than the government of a ward in the city.

There is no such thing as neutral ground in development. We must lead the children either down or up. Upon the way it is done, or the motive under which it is done, depends all.

I believe that whoever is striving to teach right, is working out the means of his or her own development.

NATIONAL PROGRESS DEPENDS ON THE TEACHER.

The question of progress in this country is,—“Are the teachers studying their profession?” Are they studying the child and the right method of his development? Are they working as artists or artisans?

I know in many places teachers are not allowed to do these things. The teachers cannot work as artists, they must work as artisans,—because of the powers that be. But the time will come when they can work as artists. Our schools have been undergoing an evolution. A great deal has been done, but it has been done slowly. The trouble is that what is wrought out by the necessities of one generation is likely to become the idol of the next.

Our only salvation as a nation is the study of education. We must search for the truth. We, here in America, are bearing the sins of the whole world. The grand mission of this country is to set the people free. The one thing for us to do is to develop character. What is lacking in us is that we do not believe in the divinity of the child. By our false systems of education this is crushed out, and abnormal development is the result.

You have some institutions in this city that are doing noble work. This is one, and the working men's school is another, but I cannot help believing that in many of the public schools instead of being developed the children are being crushed.

I tell you the line must be broken before long, or this nation will perish. Our feeling of weakness, in these social disturbances is the lack of character in the people. If we develop character as we should the nation will be saved.

THE SCHOOL-ROOM.

The object of this department is to disseminate good methods by the suggestions of those who practice them in both ungraded and graded schools. The devices here explained are not always original with the contributors, nor is it necessary they should be.

LESSON ON LAW AND OBEDIENCE.

A. In the School:—

1. Picture a school in which everyone does as he pleases and whenever he wishes; show how each would be unhappy and none successful. Thus show:

2. Need for rules in order:—

- (a) to secure work suited to all;
- (b) to secure sufficient supervision and direction;
- (c) to enable the teacher to know how each department is progressing;
- (d) to enable him to correct faults and to strengthen whatever he found to be weak;
- (e) above-all to train to those habits of order and application necessary for successful effort on the part of his pupils after school days are over.

3. Rules are of no use unless obeyed. Obtain obedience:—

- (a) by the reasonable character of the rules;
- (b) by encouraging pupils to obey the rules;
- (c) by fear of punishment following disobedience.

B. In the Home:—

- 1. Picture a disorderly home.
- 2. Rules in the home necessary in order to secure:—
 - (a) health and cleanliness;
 - (b) comfort and rest;
 - (c) happiness and cheerfulness of disposition;
 - (d) love of the various members of the family for one another.

3. Obedience to rules may be secured by the same means as those stated for schools above.

*THE GRUBÉ METHOD IN ARITHMETIC.

This is the title of a new book that will certainly command attention. There is a wide-spread feeling among teachers that there are better methods of teaching arithmetic than those usually employed—those handed down to us by the traditions of the schools. In some normal schools methods have been employed for years that have produced a great influence; these have been named the “normal methods.” But these it will be found came to us from Europe, the effect of the “Pestalozzian wave” that was propagated by Horace Mann. Since then, the German teachers have been giving intense thought to the subject; they have been developing the ideas of Froebel as well as those of Pestalozzi.

One of the most ardent students there has been, was August Wilhelm Grubé, who died in 1884. He gave a life-time to the work which bears his name. His writings are very numerous, and cover the entire field of education. He was one of the first that declared the need of a knowledge of psychology to the teacher. Prof. Levi Seeley, has, however, given us not only the ideas of Grubé, but of those who have for years employed these ideas in their schools; so that we have in this work one that is of the highest value to the teacher.

A PHILOSOPHICAL WORK.

This book has a sound philosophical basis. The child does not (as most teachers seem to think) learn addition, then subtraction, then multiplication, then division; he learns these processes all together. Grubé saw this, and founded his system on that fact.

NATURE'S PLAN.

Grubé proceeds to develop (so to speak) the method by which the child actually becomes (if he ever does) acquainted with 1, 2, 3, 4, 5, etc. This is not done, as some suppose, by writing them on a slate. Nature has her method; she begins with THINGS; after handling two things in certain ways, the idea of *two* is obtained, and so of other numbers. It must be settled clearly in the mind of the teacher that he cannot fix the plan by which a child shall learn numbers; it is already fixed by his Creator. It is for the teacher to learn this. It is this that Grubé expounds. The chief value of this book then consists in showing what may be termed the way nature teaches the child number.

VALUABLE TO PRIMARY TEACHERS.

It begins and shows how the child can be taught 1, then 2, then 3, &c. Hence it is a work especially valuable for the primary teacher. It gives much space to showing how the numbers up to 10 are taught; for if this be correctly done, the pupil will almost teach himself the rest.

ADVANCED GRADES.

It discusses methods of teaching fractions, percentage,

etc., so that it is a work valuable for all classes of teachers.

IT DEVELOPS THE MENTAL POWERS.

One of the worst faults of the ordinary method of teaching numbers is, that it does not develop the mental powers; but the Grubé method aims directly and chiefly at this, and one cannot read a page of the book without seeing it.

IT GUIDES THE TEACHER'S WORK.

It shows, for example, what the teacher can appropriately do the first year, what the second, the third, and the fourth. Without this guidance the young teacher would in many cases go astray. More than this, it suggests work for the teacher she would otherwise omit.

Taking it altogether, it is the best work on teaching number ever published, and it marks a most important era in teaching. It reflects credit on its author, who gave many years to the study of the methods of the schools of Germany, as well as to the science of education as expounded in their universities.

It is very handsomely printed and bound. The publishers spare no expense to bring out all their works in a very tasteful and inviting style.

*Grube Method of Teaching Arithmetic. Explained and Illustrated. Also the improvements on the method made by the followers of Grube in Germany. By Levi Seeley, Ph.D. Cloth, Price \$1.00. E. L. Kellogg & Co., publishers, New York and Chicago.

A TALK ON ELECTRICITY.

By SUPT. J. W. SKINNER, to Teachers of the Children's Aid Society.

I think that some effort should be made to make pupils in our schools acquainted with the laws of nature. They acquire a practical knowledge of many of them from their infancy. They get power to walk, and find out the properties of things they can see or handle, but know little of things to be ascertained by reasoning and thinking. I have here the material for making known one of the hidden powers of nature. I have suspended before you a tuft of cotton, a feather, a ruler, a stick, a cluster of ravelings and of thin slips of tissue paper. Now I take this glass rod which has got warm by the stove and put it near each of the objects. It has no effect. I take a silk handkerchief and warm it and rub the rod. I put it near the cotton and the stick and they approach and cling to the rod. I take a stick of sealing wax and rub it with flannel. It also draws the articles and more vigorously than the glass rod. Here you have an exhibition of a peculiar power. It was first noticed over a hundred years ago in connection with amber. It was discovered that amber, when rubbed, attracted things. Its name is electron in Greek. The attractive property was ascribed to electron, and thereupon called electricity. Afterwards it was found to reside in other things; now we know it is in all things. There are two theories about it. One is that the electricity shown by rubbing glass is one sort of fluid, and that that shown by sealing-wax or resin is another sort of fluid: that there are two sorts of electricity. The other theory is that the electricity from glass is positive, and that from resin is negative; that united they are quiet and not manifest, but if pulled apart they seek to unite, and so cause electrical phenomena. My own theory is that the two parts form an element in cohesion of atoms, that friction draws them apart. In rubbing sealing-wax, the positive goes into the flannel, the negative remains in the wax. It is found that two of a sort can never agree. The positive wants the negative, and repels the positive. I show this by bringing the wax up to the objects. They stick to the wax and then fall off. Now I approach the wax to them again. They fly away. I cannot get the wax near them. What has happened? These are experiments any child can perform. They seem wonderful.

But we should not make the child a wonder mark. Rather make the pupil an interrogation point. It should be incited to ask, why does this stick draw and then drive away? We must consider and reason it out. We take the fact of attraction and repulsion as established, and then look for other facts.

You see that the attraction and repulsion is exerted within a certain limited distance. Now let us see if we can increase the distance. I attach a cent to this wire, and the wire to the wax, and excite the wax. You see the cent attracts; the wire is a conductor. When it was discovered by Stephen Grey in 1729 that the electricity could be transmitted by a conductor, it made a great sensation. It was found that certain things were conductive, like metal, water, etc.; others were not, like glass, silk, resin, etc.

Now I try another experiment. I bring the wax up to the end of this suspended stick. It is hung by a silk thread, as are all the other things. You see that the other end of the stick attracts the cotton, and that attracts the feather. There has been an induction; each piece has electrified the other. As we reason about it, we think. The negative wax has made the stick like itself. If we hold it off a little way we see the stick has become polarized. It has a negative pole and a positive pole. If I bring the wax to the positive it draws, if to the negative it repels. Now put two sticks together, and the wax makes both polarized as one. Draw them apart, and you pull the electricities asunder. One stick is all positive, and one all negative.

I electrify this tuft of ravelings. They pull eagerly to reach the wax, and being touched, they each stand out and struggle, each fiber to get as far as possible from the other; having the same electricity, each is repulsive. This property is used to form an electroscope.

Here I have a preserve jar. I put a wire through the cork and have a bit of silver leaf on it in the jar, on the bent end. I put the wax near the button on the top. The leaves expand. This is useful to show plainly the presence of pre-electricity.

I have here the bottom of a tomato can melted off. I filled it with wax. By rubbing it is excited. I have another tin bottom of a can, to which I have fastened a bit of wax for a handle. I put this tin cover over the wax touching it. I touch the tin with my finger to draw off the positive electricity, and then lift it. It takes up some of the negative electricity.

I have a glass tumbler that I have coated with tin-foil to within an inch of its top, outside and inside. I attach a wire to the inside, and put a button on top. By touching my tin cover to this button, I impart a part of the charge to the covering on the tumbler. By repeating it I get it charged with negative electricity. It wants badly to get some positive from the outside. Touch the two sides with the thumb and finger, and they unite through your hand with a slight shock. This is a specimen of the famous Leyden jar that once had its day as a great wonder.

Now you have in this simple home-made apparatus the means of experimenting and learning the properties of the mightiest agent in modern civilization.

This simple experiment showing induction may lead children to understand how a man in New York can talk with a man in San Francisco, and how an operator of a telegraph at a railroad station can communicate with a conductor on a railroad, running at full speed.

You will find in Barnard's First Steps in Electricity, to which I am indebted for help in these my first experiments, the ways and means for giving a useful object lesson.

GEOGRAPHY.—V.

By SUPT. SHERMAN WILLIAMS.

WHERE DOES THE WATER GO?

You live near some stream of water, large or small. Day after day, month after month, year after year the water is running by; always going, never coming. This has been going on from the beginning, and so far as we know will continue to the end. This stream that you know is only one of very many thousands of streams, all the world over that are constantly pouring their water into the sea, and yet the sea does not get any larger. Why is this? Where does the water go? And what of the rain? Every few days, year after year the water comes down from the sky. This always has been, and so far as we know, always will be. Where does the water come from? From the clouds you say, and the clouds are formed from the invisible vapor in the air. Very good, but how much invisible vapor is there in the air? Is there enough to last always? Where did it come from in the first place? Can't you explain the whole matter to me now?

"Yes, sir. Water is constantly going into the air, all over the world, from the oceans, lakes, ponds, rivers, and damp ground, everywhere where there is any water, just the same as it does from the flower pot, the wet clothes and the basin. When it is in the air it is blown about with it everywhere, and if it is made cool enough it forms clouds, just the same as fog is formed, and if there is water enough it falls as rain, very much as water trickles down the window panes in the kitchen when there is much steam in the room. The water that falls as rain goes to make the streams and bodies of water, and is again sent into the air to make its journey over again, only it will very likely be blown to another place next

time. I think water is a great traveler." Very good indeed. You have learned the story exceedingly well, and we are now ready to understand some other things very easily, which before would have puzzled us greatly.

SCIENTIFIC EXPERIMENTS WITH SIMPLE APPARATUS.

By GEO. M. HOPKINS.

The concentration and projection of light, heat, and sound, by means of concave mirrors, can be performed with the spun metal reflectors used on large lamps, instead of the parabolic mirrors, so expensive as to be out of the reach of many students.

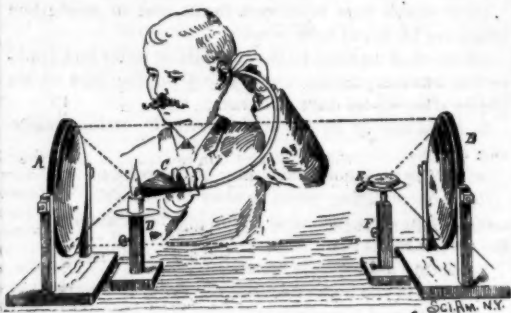


Fig. 1.—REFLECTION OF LIGHT AND SOUND.

In using these, however, two experiments are impossible; the projection of images and the accurate determination of the force. A pair of reflectors 10 inches in diameter, can be bought for \$1.50 per pair. To prepare them for use, two common wood screws are secured to them at diametrically opposite points, the heads of the screws being soldered to the edges of the mirrors, so that the screws project radically. Each mirror is provided with a stand formed of a base and two uprights, and these are provided with wooden nuts.

Several small stands are necessary for use in the experiments, and they must be adjustable. A very good adjustable stand may be made by soldering a disk of tin to the head of a 4 inch wood screw, and inserting the screw in a short column, as shown in the engraving. A paper trumpet, 8 inches in diameter, at the larger end, and two feet in length, is useful, and a rubber tube having a small funnel at one end, and an ear piece at the other end is necessary.

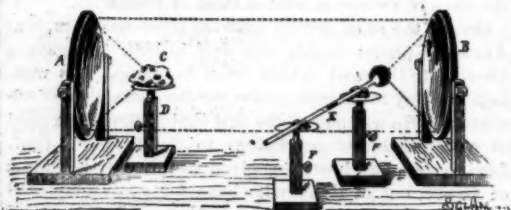


Fig. 2.—REFLECTION OF HEAT.

To show the concentrating power of one of these common reflectors, place it so that its concave surface faces the sun. Then place a piece of dark colored cloth in the focus. It is at once ignited.

Place two reflectors, A B, 4 or 5 feet apart, with their concave surfaces facing each other, as shown in Fig. 1. Place a short candle on the stand, D, so as to reflect a parallel beam that will cover the reflector, B, as nearly as possible. Then place a watch, E, in the focus of the reflector, B, upon the stand, F. Now hold the funnel, C, with its mouth facing the reflector, A, and immediately behind the candle; or, better, remove the candle and place the funnel in the position formerly occupied by the candle flame. With the funnel at this point the ticking of the watch will be distinctly heard, but a slight movement of the funnel in either direction, will render the ticking inaudible. This experiment shows that the laws governing the reflection of light and sound are the same.

Instead of placing the watch in the focus of the reflector, B, support an air thermometer, E, upon two stands, F F, as shown in Fig. 2. The inverted W-shaped pieces of tin will hold the thermometer in place. Smoke the thermometer bulb over a candle, and when it is almost cold introduce a drop of water or mercury, which will act as an index. Remove the candle until the drop in the tube ceases to move, then replace the candle. In a very short time the drop is pushed outward by the expansion of the air in the bulb. Again:



Fig. 3.—REFLECTION AND CONCENTRATION OF SOUND.

Remove the candle, and when the drop has returned to the point of starting and ceases to move, place a lump, C, of ice on the stand, D, in the focus of the reflector, A. Immediately the air contracts in the thermometer and draws the drop in. This experiment shows that heat may be reflected in the same manner as light and sound.

In Fig. 3 the use of the trumpet in connection with a concave reflector is illustrated. The reflector, A, is adjusted to the trumpet, B, by means of the light of a candle placed on the stand in the focus of the reflector. Afterward the candle is replaced by the watch. With



Fig. 4.—THE CONDUCTIVITY OF METALS.

this arrangement the watch may be heard 20 or 30 feet away.

The conductivity of metals for heat is admirably shown by the simple device shown in Fig. 4. To a strip, A, of iron are attached strips, B C, of brass and copper. The ends of all the strips are bent upward and inward, and the ends of the strips are split and curved to form loops for loosely holding matches, the sulphur ends of which rest upon the strips by their own gravity. The junction of the strips is heated as shown. The match on the copper strip ignites first, that on the brass next, and that upon the iron last, showing that, of the three metals, copper is the best conductor of heat and iron the poorest.

EASILY MADE TREVELYAN ROCKER.

This apparatus consists of a short piece, A, of lead pipe, about an inch in diameter, and a piece, B, of thick brass tubing, about $\frac{1}{2}$ inch outside diameter, and five or six inches long. The lead pipe is flattened a little to keep it from rolling, and the surface along the side which is to be uppermost, is scraped and smoothed. The brass tubing, B, is filed thin upon one side, near one end, and the thin part is driven in with the peen of a hammer or a punch so as to leave the longitudinal ridges, a a, as shown in the end view in Fig. 5.

When the brass tube is heated and placed across the lead pipe, as shown in Fig. 5, with the ridges, a a, in contact with the lead pipe, the brass tube begins to rock, invisibly, of course, but with sufficient energy to give forth a clear musical note. If it does not start of itself, a little jarring will set it going, and it will continue to give forth its sound for some time.

The accepted explanation of this phenomenon is that the contact of the hot brass with the lead causes the lead to suddenly expand and project a microscopic distance upward. These upward projections of the lead alternate between the two points of contact, and thus cause the tube to rock with great rapidity and regularity.



Fig. 5.—TREVELYAN'S ROCKER.

In Fig. 6 is shown a modification of the experiments in which the lead is indented to form the two contact surfaces, *a*, and the heated bar, *B*, is made to rock at a

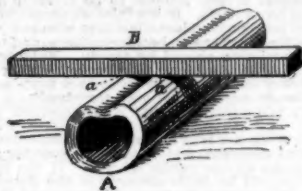


Fig. 6—ROCKING BAR.

comparatively slow rate, giving forth a grave note. By careful manipulation, the bar may be made to rock both longitudinally and laterally, thus giving forth a rhythmic combination of the two sounds.



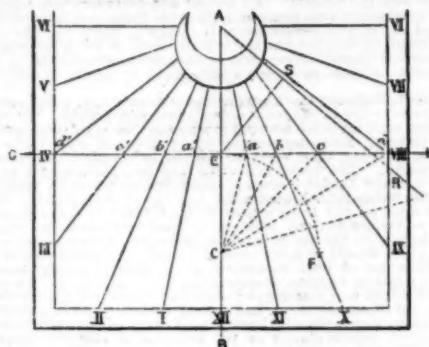
Fig. 7.—MERCURIAL SHOWER.

A very simple way of producing a mercurial shower is shown in Fig. 7. In the neck of an Argand chimney is inserted a plug of Malacca wood, which is sealed around the periphery with wax or paraffine. In the top of the chimney is inserted a stopper, through which projects a short glass tube, having its upper end bent over, or capped with a small test tube. To the outer end of the glass tube is applied a rubber tube. When the chimney is in an inverted position, as shown in the engraving, a quantity of mercury is placed in the larger part of the chimney, and the air is partly exhausted from the chimney, by applying the mouth to the rubber tube and sucking. The mercury readily passes through the porous wood and falls in a shower. By employing an air pump for producing the partial vacuum, the mercury may be drawn through a plug of pine. These experiments show in a striking manner the porosity in a longitudinal direction of these pieces of wood.

HOW TO MAKE A SUN-DIAL.

A simple sun-dial can be easily made out of wood or pasteboard, which may be placed out of doors in any convenient place, or upon the window-sill of a room with a southern exposure, and will indicate the solar time as accurately as the more expensive stone or metal dials. The method of drawing the hour-lines is as follows: Take a piece of wood or pasteboard of any convenient size, and draw upon it the line *AB*, which will be the noon or XII-o'clock line upon the dial. Then make the angle *BAR*, which must equal the latitude of the locality. At Boston this would be about $42\frac{1}{2}^\circ$. From any point upon *AR*, as *S*, draw *SE* perpendicular to *AR*; and at *E* draw *GEH* perpendicular to *AB*. Measure upon *AB*, *EC* equal to *ES*, and from the point *C*, as a center draw the quarter-circle *EF*, which is to be divided into arcs of 15° , commencing at *E*. Through these divisions draw the lines *Ca*, *Cb*, *Cc*, *Cd*, etc.; and then from *A* draw the lines passing through *a*, *b*, *c*, *d*, etc., which will be the hour-lines, where the shadow will fall. Lay off on *GE*, the points *Ea'*, *Eb'*, *Ec'*, *Ed'*, equal to *Ea*, *Eb*, *Ec*, *Ed*, and draw the hour-lines from *A* through them in the same way. It should be noted that the VI-o'clock line is a perpendicular to *AB* drawn through *A*. The point to which the VII-o'clock line is drawn, is not shown in the diagram, for lack of room; but it is found in the same manner as the others, by extending the line *EH*, and extending the lower dotted line from *C* till *A* intersects. The hour-lines before six

in the morning, and after six in the afternoon, are a continuation of the lines on the opposite side of *A*. Thus, the V hour-line in the morning is found by extending the V hour-line for the afternoon through the point *A*. The style which is to cast the shadow is of the shape of the triangle *EAS*, with the side *AS*, which



casts the shadow, prolonged to any convenient length. It must be placed upright on the dial in the direction of the line *AE*.

To set the dial in position, it is only necessary to place it at noon-time so that the shadow of the style falls along the XII line. It should also be remembered that the solar, and clock or mean time rarely agree, and the proper correction must be found. This is given for every day in the year in many almanacs. Thus, if the sun is found to be ten minutes fast, the shadow must fall upon the noon-mark at ten minutes of twelve by the clock. There is also a constant correction to be made, owing to the use of "standard time" in different sections of the country. At Boston, this amounts to about fifteen minutes, which must be added to the clock time without regard to the difference between the sun and the clock. Thus, when the clocks at Boston, mark a quarter to twelve, the sun is on the meridian, and it is really twelve o'clock. In the longitude of New York and Philadelphia, this may be disregarded, and only the correction as given in the almanac used.

We can only say, in conclusion, that these directions are much simpler than they appear at first sight, and that any one possessed of an elementary knowledge of geometry, and a pair of drawing compasses and a protractor, will find no difficulty in making for himself a useful and entertaining piece of horological apparatus.

—The Popular Science News.

ARTICLES INTERESTING TO TEACHERS FROM RECENT PUBLICATIONS.

- All Around an Old Meeting House.—April *Wide Awake*.
 Algiers, A Winter in.—April *Harper's*.
 Arbitration as a Remedy for War.—March *Our Day*.
 Art, Lectures on.—March *Blackwood's*.
 Anarchists.—March *Am. Mag.*
 Algonkins, Mythology, Legends, and Folk-Lore of.—*Transactions of Royal Soc. of Lit.* (Vol. XIV.—Part I.)
 Australian Life, Aspects of.—March *Blackwood's*.
 American Revolution, First Crisis of.—April *Atlant.*
 Agassiz as a Mesmerist.—March *Phren. Jour.*
 Ails, How They Were Discovered.—April *F. L. Pop. Mo.*
 American Lawyers, Ways and Words of.—April *F. L. Pop. Mo.*
 Buenos Ayres.—April *F. L. Pop. Mo.*
 Baptist Denominations.—March *N. E. Mag.*
 Between Albany and Buffalo, Early Modes of Travel.—April *Mag. Am. Hist.*
 Bicycle Jaunts in Europe and America.—April *Outing*.
 Chemistry of Waters.—April *Pop. Sci. Mo.*
 Cerebral Localization.—April *Forum*.
 Columbus, the City of.—April *Harper's*.
 Columbia, Burning of.—April *North Am. Rev.*
 Coast Range, Exploring in 1890.—March *Overland*.
 Coral Reefs, What They Gave Me.—March *Cassell's*.
 Culture vs. Cookery.—April *Woman's World*.
 Climate, Is it Changing?—March *Longman's*.
 College Education, Pecuniary Value of.—March *Yale Rev.*
 " Athletics and Physical Development.—April *Pop. S. Mo.*
 " Spanish in Bologna.—March *Macmillan's*.
 Coal Region, In a.—April *Domestic Mo.*
 Darwinism as a Philosophy.—March *Good Words*.
 Darwin's Life and Letters.—Jan. *Quar. Rev.*
 Dairy Schools.—March *Fort. Rev.*
 Disease, Mental Causes of.—March *Phren. Jour.*
 England, Social and Religious Life Five Hundred Years Ago.—March *Frederick*.
 Europe, vs. the United States.—March *Contemp. Rev.*
 English Historians.—March *Revue des Deux M.*
 " Etymology, Principles of.—(March 2) *Notes and Queries*.
 " Tongue, The Worth of.—March *Academy*.
 " Constitution, Gnostic on.—Jan. *Eng. Hist. Rev.*
 Education, Higher in the West.—April *Presb. Rev.*
 " Classical in Germany.—March *Classical Rev.*
 Explorations in Unknown Territories.—April *Chautauq.*
 European Hist., Heroes of.—March *Every Boy's Mag.*
 Electricity, The Dawn of.—April *Forum*.
 Evolution and the Christian Faith.—April *Ref. Quart. Rev.*
 Emerson, Cabot's Life of.—Jan. *Quar. Rev.*
 Fishes, Family Life of.—April *Pop. Sci. Mo.*
 France's Bulwarks.—April *F. L. Pop. Mo.*
 Finland, L'Organisation scolaire en.—(March 15) *Revue Pedagogique Belge*.
 Federalism, English and American.—April *Eclectic Mag.*
 Fur-land, Peoples of.—March *Chamber's*.
 Florida, Acquisition of.—April *Mag. Am. Hist.*
 French Language Before and After the Revolution.—March *La Nouvelle Rev.*
 Financial History Near the Close of Buchanan's Administration.—March *Banker's Mag.*
 Garibaldi, Memoirs of.—March *Revue des D. M.*
 Geology of Huronian Series near Sudbury, Canada.—Feb. *Quart. Jnl. of Geol. Soc.*
 Geographical Information, Art of Acquiring.—Jan. *Asiatic Quart. Rev.*
 Geography of the Khanate.—Jan. *Jnl. of Royal Asiatic Soc.*
 Gibraltar.—April *Scribner's*.
 Great Writers, Glances at.—March *Young England*.
 Greek Vase.—April *Scribner's*.
 Genius, The Endowment of.—April *Lippincott's*.
 How to Write Rapidly.—April *Wide Awake*.
 History; A Demonstration Under the Moral Law.—April *Christian Thought*.
 Hegel's Philosophy of Religion.—Jan. *Jnl. Speculative Phil.*
 Hypnotism.—April *Pop. Sci. Mo.*
 High School, Discipline in.—March *Academy*.
 Ironworkers.—March *Leisure Hour*.
 Interstate Commerce Law.—Working of.—Jan. *Quart. Jnl. of Economics*.
 Is the School Healthy?—March *Cassell's*.
 Indian Architecture, Origin of.—Jan. *Jnl. of Royal Asiatic Soc.*
 Italy and Abyssinia.—March *West. Rev.*
 Idealism, Modern.—Jan. *Bibliotheca Sacra*.
 Immigration, Restriction of.—March *Andover Rev.*
 " Question.—March *Pol. S. Quart.*
 Ireland, The Music of.—April *Cath. World*.
 Italians in New York.—April *Cath. World*.
 Juvenal, Notes on.—(Vol. XVI, No. 32) *Jnl. of Phil.*
 Japan, a Sail Through the Inland Sea of.—March *Sunday at Home*.
 Lectures on Geography before the University of Cambridge.—March *Royal Geo. Soc. Proceedings*.
 Lucilius, on the Aetna of.—(Vol. XVI, No. 32) *Jnl. of Phil.*
 Libby Prison, Escape from.—March *Century*.
 Land and Labor Question.—April *Cath. World*.
 Letters, Profession of.—March *Macmillan's*.
 Local Government.—March *XIX. Cent.*
 Law, Logic, and Government.—March *New Princeton Rev.*
 Line, Language of.—April *Mag. of Art.*
 Life, Application of Spencer's Standard to Value of.—March *Bapt. Mag.*
 Millennium, First Steps Toward.—March *Cosmog.*
 Monsoons.—(March 15) *Nature*.
 Morals by Machinery.—March *Banker's Mag.*
 Michigan Salt Monopoly.—March *Pol. S. Quart.*
 Mineralogy, Present Status of.—April *Pop. Sci. Mo.*
 Negro Question in the U. S.—March *Contemp. Rev.*
 " Superstitions of.—March *Cosmog.*
 Nationality, Not Separation.—March *West. Rev.*
 North Pole, A Trip to.—Feb. *Tinsley's Mag.*
 Natural History, Notes, and Anecdotes.—March *Leisure Hour*.
 Notes of a Naturalist.—March *Cornhill*.
 Our Monetary System.—April *Chautauq.*
 Our Young Criminals.—March *Welcome*.
 Pauper Foreigners, Invasion of.—March *XIX. Cent.*
 Public Schools, What Shall They Teach?—April *Forum*.
 Progress and Poverty.—April *Presb. Rev.*
 Philology of the English Tongue.—(March 24) *Notes and Queries*.
 Public Debts of Europe.—March *Banker's Mag.*
 Plants, The Earliest.—April *Pop. Sci. Mo.*
 Palestine of To-day.—April *Century*.
 Possible Presidents.—April *No. Am. Rev.*
 Precious Metals, Production and Value of.—March *Banker's Mag.*
 Private Picture Galleries in U. S.—March *Connoisseur*.
 Polar Axis, Wandering of.—March *International Standard*.
 Rocky Mountain Animals.—March *Welcome*.
 Right and Wrong.—March *Macmillan's*.
 Republic, The Center of.—April *Scribner's*.
 Roman Remains in Merry England.—April *Outing*.
 Sensory Disorders.—Jan. *Brain*.
 San Francisco, Early Days of.—March *Overland*.
 Social Problems and Remedies.—March *Fort. Rev.*
 School Life at Eton Sixty Years Ago.—March *Welcome*.
 South Sea Savages.—April *Quiver*.
 Student Life at Oxford.—March *Welcome*.
 Spanish College in Bologna.—March *Macmillan's*.
 Scientific Studies, Preparatory Training for.—March *Academy*.
 Spencer (Herbert) as a Moralist.—March *Fort. Rev.*
 Science Vindicating Revelation.—April *Ref. Quart. Rev.*
 Struggle for Existence.—April *Eclectic Mag.*
 Through Hudson Bay to Winnipeg.—March *Good Words*.
 The Hohenzollern Kaiser.—April *No. Am. Rev.*
 Technical Education.—March *Blackwood's*.
 Tenement-house Problem.—April *Forum*.
 The Supernatural, Scientific Evidences of.—April *Christian Thought*.
 Tariff of 1828.—March *Pol. S. Quart.*
 Tin, The Land of.—March *Antiquary*.
 Taxation, Basis of.—March *Pol. S. Quart.*
 The Fallacy of 1890.—April *Mag. Am. Hist.*
 Tobacco Habit.—Feb. *Sanit.*
 University of Oxford, Statutes of.—(March 24) *Notes and Queries*.
 Union, The Battle for.—Jan. *Ed. Rev.*
 United States, Eleventh Census of.—Jan. *Quart. Jnl. of Economics*.
 Volapuk; the New Language.—March *Chamber's*.
 Water-Spouts off the Atlantic Coast of the U. S.—(March 30) *Science*.
 War, Ameliorization of Laws of Required by Modern Civilization.—Feb. *Law Rev.*
 West, India, Mr. Froude on.—March *Chamber's*.
 Waterloo, Campaign of.—April *Scribner's*.
 West, Studies of.—April *Harper's*.
 Yellow River, Great Inundation.—March *Leisure Hour*.

THINGS OF TO-DAY.

Prince Bismarck has abandoned his opposition to the Battenberg marriage.

A statue of Lafayette will be erected in Washington near the White House.

It has been decided to refer the Morocco dispute to an arbiter, in case United States Consul Lewis and the Moorish representative cannot agree upon terms of settlement.

Congress is considering a bill repealing a law giving to cheap publications, really of books, but presented as "periodical," circulation through the mail at one cent per pound.

Gen. Quincy Adams Gilmore, one of the greatest artillerymen and engineers of the Civil War, who planted the "Swamp Angel" for the bombardment of Charleston, died in Brooklyn. His funeral was held with military honors at West Point.

Several League meetings were broken up in Ireland by the authorities. In Dublin the military and police charged upon the crowd, many of whom were injured.

The great coal companies have agreed to keep the price of coal as at present for the remainder of the year.

The United States Supreme Court has declared constitutional the Pennsylvania law prohibiting the manufacture and sale of oleomargarine.

The people of Ohio celebrated the hundredth anniversary of the foundation of the first colony in the great Northwest Territory in Marietta, on the 7th of April, 1788.

The work of surveying for the Nicaragua Canal is progressing rapidly.

It is said that Goat Island at Niagara Falls is in danger of destruction from the eroding waters, unless prompt measures are taken to protect it.

The Belgian Government's extraordinary expenditure for 1888 is estimated at \$10,000,000. This is mainly for new forts, military roads and artillery. The amount will be covered by a loan.

Scandalous stories were circulated about Warden Walsh of the Tombs, and he was forced to resign.

The recent meetings of the Irish National League prove that the assertions of the British Government that it was dead were unfounded.

Gen. Boulanger has been elected a member of the Chamber of Deputies, causing much uneasiness among the conservatives.

At a banquet in London, Mr. Chamberlain spoke of the importance of maintaining a friendly attitude toward America.

The bark Reindeer encountered a water spout near Bermuda, which burst just before it reached the vessel. The force of the revolving air currents stripped all the canvas from the masts.

The motion to resubmit the case of Gould and Sage to the New York grand jury was denied. They were accused of criminal dealings in connection with Kansas Pacific stock.

FACT AND RUMOR.

Dr. Fairchild, the president of Oberlin College, is ninety years of age.

The students of Brown University, with the cooperation of President Robinson and several professors, have been holding Sunday evening services in Low's Opera House, Providence. They are non-sectarian, and have brought out a large attendance.

President Eliot says a student can live at Harvard for \$500 a year, and enjoy "all the advantages" for \$800.

The Methodist College for women, at North Baltimore, Md., will be formally opened in September.

President Webster, of Union College, has one of the finest collections of marine zoology in the country.

There are 18,000 female students in the various colleges of this country.

There are in the United States 5,338 libraries, each with 300 volumes or over. The number of volumes is nearly 21,000,000. In round numbers the United States has one library to every 10,000 of population.

The two cleverest and most highly educated women in Europe are said to be the Empress Victoria, of Germany, and the Queen of Italy. The Empress Victoria is a brilliant conversationalist, but is not as witty as Queen Margherita. The former, however, is able to converse learnedly with such men as Virchow and Von Helmholtz, and her comprehension of her husband's case has awakened wonder among his physicians.

Purify your blood by taking Hood's Sarsaparilla, the best spring medicine.

THE SOUTHERN INDIANA TEACHERS ASSOCIATION.

COLUMBUS, APRIL 4-6.

WEDNESDAY EVENING.

ADDRESS OF WELCOME, HON. C. N. SPENCER, Mayor of Columbus.—The gathering of the teachers of Southern Indiana, met in the evening in the auditorium of the Methodist church, and listened to an address of welcome from C. N. Spencer, Mayor of the city. Mr. Spencer referred to the duties and responsibilities of teachers, and said among many other excellent things, that it is the duty of the teacher to teach the pupil how to think, how to work, true manhood, and love of country.

RESPONSE AND INAUGURAL ADDRESS OF THE PRESIDENT-ELECT, J. H. MARTIN, D.D., Supt. Public Schools, Madison.—The perpetuity of republics depends on the intelligence and virtue of the people, and to inculcate these cardinal principles common schools were established. Intelligence and morality should keep pace with the growth of population. It requires more wisdom and virtue to govern a nation of fifty millions or one hundred millions than to govern one of five millions. Four things must be done: First, the public school must be a promoter of intelligence, but how far shall it go? If a little learning is a good thing, more is better; high schools should be sustained, and the state has the

right to sustain them, if it can tax for educational purposes at all.

Second, it must teach morality. Intelligence must be based on morality. Human wisdom and human laws cannot furnish the morality required. It must be based on the Bible, and on the principles of Christianity. Such a morality will kill anarchy and socialism.

Third, it must teach the dignity of labor. Educated young persons usually seek the professions, or something that does not require manual labor, under the impression that it is degrading to labor with the muscle. All honest and necessary labor is noble. The blacksmith who honestly toils at his forge is as honorably engaged as the man who stands in the pulpit. There is a false public sentiment on this subject and it is the work of the schools to educate it and dignify labor, and to this end there should be more industrial schools, and every child should be taught to earn a living.

Fourth, it should teach patriotism. Anarchy, socialism, and intemperance are at the front doing a pernicious work. Hordes of foreign emigrants are pouring in upon us; many of them ignorant and vicious. Knowing nothing of our form of government and caring nothing, they form a dangerous element, morally and politically. The question is, shall they be Americanized, or shall this country be foreignized? Immigration must be restricted, and the public school must make Americans of all pupils. Every child must go out from school with a loyalty to country second only to loyalty to God. This can be done by precept and example and largely by the use of patriotic literature, declamations, songs, &c., which should be more generally used. A greater trial is coming than that of 1861. Sometime, when there is a great financial crisis, a failure of crops or something that will stop the wheels of manufacture and commerce; when the country is filled with idle men, out of employment, and out of bread; when the doctrines of socialism and anarchy have gained many adherents; when unprotected wealth stands in the presence of idle and desperate men, then the great crisis in the life of the Republic will come; and it is the work of the common schools to instill such a spirit of patriotism into the minds of the rising generation as will enable them to successfully meet this danger when it does come.

THURSDAY MORNING.

Owing to sickness, the first speaker, Mr. E. H. BUTLER, Rushville, was not present, but the association proceeded to an informal discussion of the subject.

THE TEACHER'S GREATEST HINDRANCES AND THEIR REMEDIES, MR. E. E. SMITH.—One hindrance is the want of professional books for the teacher, and this is caused by inadequate salaries. Teachers should be permitted to visit other schools, and thus compare methods and management. The chief aim of many teachers is to get money, and they teach their pupils the same spirit. Teachers complain too much of each other and of their surroundings. There is a lack of organized effort, and teachers allow outside influences to counteract the culture already given.

MR. CHURCHILL.—The greatest elements in the teacher's fame are knowledge, skill, and love, represented respectively by the head, the hand, and the heart. Teachers are hindered by internal resistance. They are often deplorably ignorant. They lack skill and bungle in their work. They should love their pupils and their work, and manifest it to all.

MR. MARBLE.—The work of the teacher is too often narrow; they expect results too soon. Dishonesty among teachers and a superficial idea of responsibility are hindrances.

MR. CRAIG.—By listening to the foregoing speeches an outsider would think teachers were making no progress, which is contrary to the fact. Although we need just criticism, teachers have made the title, "pedagogue," honorable.

SUPERINTENDENT JONES, Indianapolis.—The greatest hindrance to the establishment of a correct relationship between the teacher and pupil.

LATIN IN THE HIGH SCHOOL, PROF. J. H. T. MAIN, Moore's Hill College.—There is a question in the minds of some teachers as to the expediency of continuing Latin in the high school. I do not attack the study of the sciences. Neither is it necessary for me to defend them, for they are able to stand upon their own merits. The tendency of the times is towards scientific study; but will anyone say there is nothing scientific about Latin? The scientific spirit may be cultivated by studying Latin. It secures good mental training. Language has always been a science. Criticism is, generally, not against the classics, but against the teacher of classics. The benefit of a study depends largely upon how it is taught. Observation may be taught by studying Latin. Scientific teaching is inductive. The student of Latin must observe and classify. Is Latin practical? Well, what is "practical"? It is practical to earn two dollars a day. The present popular notion as to what is practical and what is not, needs fighting. Latin enlarges the view of humanity. It teaches the pupil that he is a debtor to the past; that his language is an inheritance; that the underlying principles of Latin are the same as those of the English; and he may discover that it is more easily understood than the English because of its inflectional forms. If I had a child he should never study English grammar except through the Latin. There is a larger per cent. of Latin in our mother tongue than of any other language. Our civilization is founded largely upon that of Greece and Rome, and the principles of our Government have been derived thence. Latin touches the student at many practical points of life. The ideal may after all turn out to be the agreeably practical. He who classes Latin as a dead thing is himself a fossil.

In the discussion, Mr. Shannon said: "Every lesson in Latin should be a lesson in English."

HOW TO CULTIVATE A TASTE FOR GOOD LITERATURE, MISS KERRY E. PALMER, Franklin, Ind.—The end of all education is to learn to read. In the analysis of a lesson, that should be brought out which makes the production literature, and the pupil should be led to see it. Teachers should give the same care to the preparation of the reading lesson, that they do to other lessons. Imagination predominates in childhood, and in connection with this work, it may be freely developed. Teach the children to discriminate between the good and the bad, in the common newspaper of the day. Teach them how to select, and guide them in choosing. The teacher himself must be filled with the good and pure of literature. Teach them that history is past politics, and that present politics will be future history.

DISCUSSION.—Supt. W. T. HOFFMAN, Washington.—The noblest products of men consist in literature, and, at the same time, the vilest trash is found in the same garb. The proper teaching of reading lies at the foundation of a love for literature. What to read is more important than how to read. Anecdotes are always in order. No better school exists than the library, as reading is supplementary to all other studies. Juvenile literature is in demand. Publishing houses are aware of this, and an abundant supply is the result. The children's reading circle, which is now under consideration, seems to promise the most available means of securing this desired end. Let some such plan be promulgated by the county institutes during the coming summer.

MR. BELL, of the Indiana School Journal.—The most important of the teacher's work in this matter is, to teach the pupil to interpret all that he reads. The study of literature is not to learn biography simply, is not to investigate criticisms, but is to learn what the author has said. Let the pupils interpret for themselves, largely, independent of note or comment.

THURSDAY AFTERNOON.

THE CLASS AND THE INDIVIDUAL, PROF. F. L. MORSE, Hanover College.—One of the most serious defects of our school system, is the sacrifice of the individual to the class. School training should be adapted to each member of the class. See that personality is not lost. Why have we so few intellectual giants in these days? The highest type of manhood is found in independence, and life's demands are made upon us, not as a class, but as individuals. The unit of the school should be the pupil and his teacher, and not the class and its teacher. The tendency of class-work is toward the mechanical; the parents unfortunately desire this. The rural schools produce our best scholars, our most successful thinkers; because, I aver, individuality receives more attention and direction. There is too much reliance upon text-books. If they could be banished, it would probably be better. The value of a life is in proportion to its independent power. There can be no mind without a corresponding power of character. Let us see to it, teachers, that our pupils learn early to recognize themselves.

INSTRUCTION IN CIVICS, PROF. W. T. STOTT, Franklin, College.—In monarchies the people are not interested, particularly, in the success or failure of their government. They have nothing to do but be ruled. But republics are partnerships, and young men and young women are rightly interested in their management. We expect a deep interest to be taken in the science of government in our schools. It is a false sentiment to teach young men that they may be presidents, but it is wise and necessary for them to know that they are to become citizens, and to know what that means. Patriotism should be taught. Make use of various text-books in teaching civics. Geography, history, arithmetic, and indeed, every text-book may serve as a text-book in civics. The teacher should master some good text-books on civil government. Macy's "Our Government" is an excellent book for this purpose.

Occasionally a teacher may encounter a trustee with a homopathic head, and allopathic feet, who will oppose the giving of instruction in civics in our public schools. If the teacher has a partisan trustee, and he holds strongly to the Democratic faith, tell him of your intention to teach the pupils of the excellence and nobleness of this great Democracy, but if he hold to the Republican doctrine, then substitute the word Republican for Democrat in your plea.

Take advantage of elections, court proceedings, and every phase of governmental operations in your community, and make lessons in civics. Have men of the town make addresses upon the subject. Organize practical working bodies, imitative of legislature, courts, &c.

DISCUSSION.—MR. J. C. EAGLE, Shelbyville.—The best thing I can do to endorse what Dr. Stott has said, I would emphasize the importance of the study of our national constitution. Every man is a sovereign, and it should be one of the requirements of our public schools to teach the children their relations as citizens.

WRITTEN EXAMINATIONS AS A BASIS OF PROMOTION, SUPERINTENDENT L. H. JONES, Indianapolis.—A superintendent who promotes solely on the written examination may do great injustice. The pupil may not have that plant use of language that will enable him to compete with his more fortunate, but less competent companion. Pupils should be examined with reference to their fitness for work in the next higher grade. They should be examined in reference to their mental grasp, daily. They should be tested as to the correct use of language. The better the teacher, the better he knows the fitness of his pupil for promotion.

The superintendent should not have written examinations as the sole test, but written work should be the chief element in the test of fitness. Such an examination challenges the pupil to his best effort. Where, so much as in the written examination, does competence go to the front, and incompetence fail to the rear? The written examination, together with the judgment of the teacher, should be the whole test, with the written examination first. The highest fruitage of education is ability to produce knowledge when most needed. There is a class of pupils who fail because of their nervousness. They should not be deterred from passing to the next grade because they fail to commit to paper the evidence of their knowledge. The teacher is the arbiter here. Those who pass on the written examination should be at once honorably promoted. Those who fail, but whom the teacher knows to be competent, should also be honorably promoted. Under such provisions, parents will have little to base complaint upon. Written examinations should be made to serve other ends than that of promotion.

The superintendent may learn of the necessities of his teachers by this means. The first examination should be held several weeks before, and the second just before the close of school. This gives the teacher a chance to direct effort where most needed.

DISCUSSION, MR. E. E. STEPHENSON, of Rising Sun (taking the opposite side).—Some would abolish written examinations the sole test. Some would abolish them altogether. Examinations serve to give teachers a great deal of worry, and tend to make mere machines of the schools. They lead to cramming. We need some one to destroy this working for show. What teacher who has a pupil in his class for a year, cannot tell of that pupil's ability? The daily work should be made the basis of promotion. Written examinations tend to narrow teaching, and test chiefly the work of the memory.

FRIDAY MORNING.

THE RELATION OF THEORY TO SKILL, PROF. W. J. BRYAN, of the Indiana State University.—What should a statesman know? An actor? A poet? Shall each know all the sciences? What must the teacher know, proposing to give instruction to such as himself? He must know what he proposes to teach, whom he proposes to teach, and what it is to know anything. Teachers must know the nature of those whom they teach. Often he dares to train or direct a human soul of which he is ignorant.

There are conditions under which we may learn of the soul. We must try to cooperate with nature. Skill is ability to lend on to right thinking and right doing. There are two kinds of knowledge—knowledge of fact, and knowledge of how to do. Our double trouble is this,—we do not know everything, and the world will not wait for us to find out all. The external rule must become internal impulse. Knowledge becomes skill when it becomes operative.

DISCUSSION.—PROF. A. H. TOMPKINS, DE PAW University: The teacher must know the educative process. If there is any kind of educational infidelity that is hurting the business of teaching, it is excess of faith in the mechanical processes. Skill is ability to operate intelligently, and requires that the teacher be conscious of the end in view.

THE PUBLIC SCHOOLS AND THE LABOR QUESTION, DR. J. J. MILLS, President Earlham College.—Labor and the schools are co-workers—indeed, co-existent. An increase of intelligence is demanded by the labor interests. The labor organizations are becoming educative, second only to the church and the school. They open up opportunities for discussions, thus lead to development of intellectual powers, and create a demand for more knowledge. The public schools are largely responsible for the labor agitation of the present day. The laborer there learns of his rights and wrongs. Such an examination challenges the pupil to his best effort. Where, so much as in the written examination, does competence go to the front, and incompetence fail to the rear? The written examination, together with the judgment of the teacher, should be the whole test, with the written examination first. The highest fruitage of education is ability to produce knowledge when most needed. There is a class of pupils who fail because of their nervousness. They should not be deterred from passing to the next grade because they fail to commit to paper the evidence of their knowledge. The teacher is the arbiter here. Those who pass on the written examination should be at once honorably promoted. Those who fail, but whom the teacher knows to be competent, should also be honorably promoted. Under such provisions, parents will have little to base complaint upon. Written examinations should be made to serve other ends than that of promotion.

DISCUSSION.—MR. D. E. HUNTER: "Those who think will govern those who toil," says Goldsmith; but to-day the man who toils is himself becoming a thinker. We educate the child, that he may in after years put thought into his work. The anarchists were thinkers, and skilled in work, yet they lacked something—moral culture. I believe men have a right to strike—either the employers or the employes. But no one has a right to boycott.

WHAT IS THE END OF TEACHING? DR. C. E. KIRACOFF, President of Hartsville College.—To get money is not the highest object in attaining an education. Imparted knowledge is not the highest object in teaching. It is to form character. The highest test of teaching is its moral tendency. We should teach truthfulness, honesty, and all the virtues, and teach the evils of intemperance. If we wish to produce manhood in our pupils, we must ourselves be men.

HON. H. M. LA FOLLETTE, State Superintendent of Public Instruction, addressed the association briefly.—There are many problems among us that affect our country as a whole. Too high a stress cannot be placed upon the moral aspect of teaching. Education is a moral necessity. The education of the children depends upon the character of the teacher. We are all gaining through our reading-circle work. There should be a way devised by which the teacher might have a tenure of office. It is a right which belongs to the teacher, and is now due him. It would be impolitic to place the selection of the county superintendent with the people. Such officers are not partisan, and should be held aloof.

The following officers were selected for the ensuing year: President, R. W. Wood, Jeffersonville; Vice-Presidents, W. F. Hoffman and Miss Anna Satter; Secretary, Kittie E. Palmer; Chairman executive committee, W. P. Shannon.

Greensburg was selected as the next place of meeting. State Correspondent. JOHN R. WEATHERS.

NEW YORK CITY CORRESPONDENCE.

Superintendent Jasper has put Dr. Hoffman in charge of the manual training schools. These now include all the schools of the 4th and 6th wards, and G. S. No. 48. About 5,000 children are now studying under the new course. An application has also come from the female department of G. S. 41 in the 9th ward for the introduction of manual training there.

Last Saturday all the teachers of these schools were called together at Grand street to listen to some practical suggestions in regard to the new work. The commissioners' chairs, and all the seats in the room where the board meets, were filled with the teachers. Dr. Hoffman presided, at the blackboard, which had taken the place of President Simmons' chair.

Before beginning the practical work, the assistant superintendent remarked that the old saying about letting well enough alone is well enough until you find something better. It is believed that something better has been found, though it is feared that the importance of it is not yet fully understood.

"You and I," he said, "were taught by ear. Our lessons were dinged at us until we could say them. Now we teach by the ear and eye, and also by giving our pupils a chance to express their thoughts with their hands. I could teach a Zulu to define a pair of compasses," and picking up a pair the doctor rattled off a description which sounded very much like some definitions of cubes, cylinders, etc., that pupils are often heard repeating most glibly. "He might say all that, and yet have no idea of a pair of compasses. If I should show them to him he would know more about them, but if I should give them to him and let him work with them he would soon know all about them."

After referring to the new course as the one in which Mr. Harrison had laid the final monument of his clear perceptions of the principles of pedagogy, Dr. Hoffman proceeded to give a few suggestions about the handling of clay. When the clay is intended for hemispheres, it should not be quite as hard as when mixed for spheres, because when the pupils come to cut through the sphere which is to make the two hemispheres, it will break if it is too hard. It was suggested that the teachers try mixing a little glycerine with the clay to keep it longer in working condition. He had not tried it yet himself, having only just thought of it, but judged from the nature of glycerine that it would hold the moisture.

In order to smooth over some of the difficulties which it was anticipated the teacher might find in mechanical drawing, Dr. Hoffman went through with the construction of the first series of problems in the eighth grammar grade, viz. (1) To bisect a line. (2) To erect a perpendicular to a line at its middle point. (3) To erect a perpendicular at any point. (4) From a given point outside a line to draw a perpendicular to a given line, etc. Among the cautions thrown out were:

Do not try to have the children make drawings that are "nice to look at." The object to be aimed at is to increase the child's power of perception. He is to draw, not what looks well, but what represents something.

Let the children prove all their solutions by cutting or folding paper and measuring their work. Make no attempt to have them repeat geometric demonstrations. Let them simply look and see whether their work is right or wrong.

Avoid all book expressions, and the naming of the angles by letter. We do not want to burden the child's mind with any of these things; we want to let him gain some practical ideas.

Dr. Hoffman intends to meet the teachers of the grammar and primary grades on alternate Saturdays at 10:30 A. M. Next Saturday (April 21) he will meet the primary, the following the grammar grades. He requests as a special favor that they will be prepared to ask questions if there is anything they do not fully understand.

Superintendent Jasper also invites not only questions, but opinions of all kinds. He intends to call the teachers of all the grades together often after this for free discussion of their work.

The Building and Loan Association is now established on a pretty sure footing. Between 4,000 and 5,000 shares have already been taken.

The Norfolk Street Evening High School, of which Mr. William F. Hudson is principal, closed its first year's session Monday evening. Over 1,000 young men, from those of fifteen to those of thirty, have been in attendance since Oct. 3. There was a Latin class composed largely of druggist's clerks, a large German class and a small class in Spanish. Mr. Hudson says that the students, representing all nationalities, have seemed to greatly appreciate the advantages of the school, and have conducted themselves very gentlemanly and orderly through the entire term.

Dr. Hammond was again prevented from lecturing before the Mutual Improvement Association by illness. He is suffering from an abscess in the neck.

The Alumni Association of the College of the city, will hold a novel reception in that building on Friday, April 27. The workshop, chemical and physical laboratories, natural history hall, and the new drawing-room, will be thrown open to the public to show the improved methods of instruction, and also the collections for work in the possession of the college, the natural history collections, casts of the Elgin marbles, electrotypes of Greek and Roman coins, improved apparatus in chemistry, physics, and applied mathematics. The laboratory and shops will be in operation. In the shops there will be wood-working, forge and vise work, in metals, and speed lathes, and engine lathes. In the laboratories there will be chemical experiments, blow-piping, and manipulation of physical apparatus, including work with electrical apparatus, electrical experiments, measurements, etc. In the natural history hall, students will dissect objects, examine them with microscopes, and make sketches of their observations.

In the evening there will be music and a reception, at which some of our most noted citizens are expected to be present. Much is hoped from this meeting in the way of arousing an interest in educational matters.

It is also intended to have popular lectures in future given by various professors, presenting from time to time the advances made in their respective departments.

E. L. BENEDICT.

LETTERS.

A TEACHER'S INFLUENCE.—It seems to me that too little emphasis is given to the influence exerted by earnest teachers over the unfolding minds of their young scholars. If the teacher is interested in the pursuits and tastes of his or her pupils, they notice it at once, and a great improvement will be manifested in recitations. I heard a striking illustration of this, recently. A group of merry school girls were chatting pleasantly together, when one, who seemed a general favorite, exclaimed:

"Oh girls, I haven't worked my examples yet, have you?"

"Don't bother with them," cried another.

The girl hesitated a moment, then replied resolutely:

"Yes, I shall work them now, while I have time. Miss R—— is always so pleased when we recite perfectly, that I hate to miss. Besides, she is willing to help us in any way she can, and it is only right that we should do the same."

The others laughed at the earnest words, but acknowledged their truth, and acted upon the good advice.

Miss R—— may have been unconscious of the influence she exerted, but she certainly reaped the benefit therefrom. When I hear teachers complaining loudly of the inattention and carelessness of their pupils, I feel like asking:

Have you done all you can to win their love and respect? Have you made allowance for the natural spirits of youth? If not, the fault lies at your own door.

Any teacher who will hold up to ridicule the mistakes made by a scholar, does not deserve the name he boasts.

I have seen sensitive children, who have innocently misunderstood some truth or statement, jeered at publicly in the class-room, by the teacher in charge, until they have become possessed of a timidity that it takes years of effort to overcome. Every teacher, it seems to me, should hesitate before administering a public rebuke. Years of school experience have convinced me that, while it may be beneficial sometimes, after the nature of the scholar is thoroughly understood, in far more cases it is productive only of pain and mortification to both parties.

There may be some rude character upon whose stubborn will a private remonstrance, or gentle hint has no effect, but to a finely organized nature the mere thought brings a shiver of repugnance, and, alas! too often, stands an impassable gulf between the well-meaning teacher and the thoughtless scholar, unless the latter is calm enough to see its justice.

A. W. W.

CLASSIFICATION OF COUNTRY SCHOOLS.—What are the arguments in favor of classifying country schools? UNINFORMED.

"No one will deny that there is an urgent necessity for the adoption of more systematic plans of instruction and classification of country schools. When school boards secure the services of a teacher of tact and ingenuity the school is well organized, and much work is accomplished. The next teacher will probably reorganize the school and the next, who is without a system, will disorganize; and thus, the school has as many systems as it has teachers."

Such are the views of H. A. Edwards, superintendent of Hall county, Nebraska: and, in order to secure uniformity, he has prepared a manual and course of study for the district schools in his jurisdiction. He divides the schools into primary, intermediate, and grammar grades, and lays down courses of study for each. Among the advantages that follow the grading of country schools are mentioned the following: The attendance is larger and more regular. The tendency to a constant change of teachers is checked. The terms in many schools are lengthened, making them, in the elementary ones, more uniform in this respect. This system requires that the mind shall be more symmetrically developed, and a more careful preparation be made for practical life by a study of all the common branches. Each incoming teacher knows from the records what branches each pupil is prepared to take up at the opening of the term. The patrons of the schools are educated so that they will soon demand that the instruction given the children shall be more systematic and complete. Under such a system, the teachers become enthusiastic and do better work. It enables the county superintendent to tell what each school is doing, and thereby to more judiciously direct the work of the schools. It encourages the most approved methods of teaching the several branches pursued in these schools; and therefore, the employment of teachers best versed in these methods. Children moving from one district to another, experience less difficulty in finding their proper place in the new schools, as the instruction in all the districts is nearly uniform.

NEW YORK CITY'S EVENING HIGH SCHOOLS.

The closing exercises of these schools took place on Thursday and Friday evenings of last week. The one on the east side of the city in Norfolk St. near Hester, in the Tenth ward, was opened last fall for the first time, and has been a decided success. It was supposed at one time that there was no necessity for its establishment, and the proposition to open such a school

met with much opposition. But at last the demand from that quarter of the city became so great that opposition vanished, and the school was opened on the 1st of October. Large numbers of young men crowded into the school, and the average for the term has been about 700. Mr. Wilbur F. Hudson was appointed principal, and with him were associated twenty-two teachers. The studies pursued were higher arithmetic, book-keeping, political science and history; English grammar and composition, algebra, geometry and trigonometry, rhetoric, reading and declamation, architectural, mechanical and free hand drawing. These branches were taught in the school in Thirteenth St. which, for two score years, has been the means of educating thousands of young men, and preparing them for lives of usefulness. On Thursday evening while the rain was descending in torrents the exhibition of drawing took place; but the storm did not prevent the attendance of those who had been so greatly benefited during the long evenings of the past winter.

The side walls of the assembly room were covered with drawings, mechanical architectural and free hand, furnishing the evidence of the success which had attended the labors of teachers and pupils during the season. Certificates were distributed, and one young man who had received one was heard to declare on leaving the building that he would not part with it for one thousand dollars, so highly did he value it.

The school in Thirteenth St., near 6th Ave., of which Mr. Jacob T. Boyle is principal, had its reception on Friday evening when owing to the clear weather the room was crowded with pupils and visitors. The side walls were lined with similar drawing to those exhibited in the Norfolk St. school, and commanded the admiration of the visitor. Dewitt J. Seligman, Chairman of the Evening School Committee was present, also Ex-President William Wood, of the board of education, and Assistant Superintendent Jones. After the drawings had been carefully examined by those in attendance Commissioner Seligman presented the prizes which had been awarded to the successful students.

First prize for architectural drawing was awarded to John R. Nuss, the Ivans Gold Medal, and the second prize, a silver medal, presented by the instructor to Thomas G. Wallace.

Mechanical drawing: First prize, the Ivans Gold Medal, was presented to John H. Harts, and the Silver Medal to Samuel Newton, Jr. The Tiffany prize, a gold medal, was awarded to Provie J. Cheron, for greatest improvement in drawing from antique busts.

Faber's first prize, a box of drawing instruments, was awarded to Jacob Wolf, for greatest improvement in drawing human head or figure from the flat. The second prize, a box of pencils, for greatest improvement in drawing historic ornament from flat was awarded to Charles Brown. Honorable mention was made of a number of students whose work was considered highly commendable. Brief addresses were made by the Chairman, Commissioner Seligman, Ex-President William Wood, and Assistant Superintendent Jones.

A TRIAL OF THE TONIC SOL FA SYSTEM.

Seeing in your columns some time since an account of the American Vocal Music Association and its method of introducing the Tonic Sol Fa system in schools, I put myself in communication with the manager, Prof. Theo. F. Seward, with a view to making a trial of it. The result was that one of the teachers of the association, Prof. J. W. Adams, was employed to come here and give daily lessons for a week. The effort met with wonderful success. I am free to say that I was a firm believer in the old method of notation—so much so that I doubted very much if any other method could equal it. I am now a thorough convert to Tonic Sol Fa. I believe that there is a system needed for the training of the voice just as much as there is a system needed for use in instrumental music. To fill this last requirement we have the old notation; for the first we have Tonic Sol Fa, which is the only perfect and natural system. It is all that it claims to be, simple and easy to understand.

We had a class of one hundred and twelve, and they were all alive to it, and the enthusiasm rose to a high pitch. We had extremely poor weather, but it mattered not how hard it stormed, we had every member of the class present, both afternoon and evening. There were teachers who left home at 8 A. M., taking their dinners and suppers, and not returning until 9 P. M., for the sake of learning Tonic Sol Fa. Nearly every teacher supplied herself with a book, modulator, and pitch pipe, so that now Sol Fa is taught in nearly every room in the city. For myself I am keeping up the study, and once a week give a lesson to my teachers, and three times a week in the high school, besides giving short lessons to lower grades. I hope the time will soon come when this system will be incorporated as the system in all our public schools. The masses can grasp Tonic Sol Fa as they cannot the old method. The result of the week's work has been, therefore, that our teachers are convinced of the value of the system, and are now teaching it.

Yours very respectfully,

Atlantic City, N. J.

F. H. HANSON.

BOOK DEPARTMENT.

NEW BOOKS.

CHIPS FROM A TEACHER'S WORKSHOP. By L. R. Klemm, Ph.D. Boston: Lee & Shepard, Publishers. New York: Charles T. Dillingham. 408 pp. \$1.20.

As the author offers this book to the public, he desires to have it understood that he does not undertake to present a complete system of education; but, besides essays and historical dissertations, he offers chips from his own educational workshop. These chips represent the author's mode of thinking, and discussing, his manner of teaching, and experiences of many years, as author and teacher. Under various heads he gives these experiences with logical deductions drawn from them. He most thoroughly understands the philosophy of education, and the principles he advances are presented in a concrete form easily understood. The ten chapters are full of interest, based upon common-sense. Among them are found such topics as: Open Letters to a Young Teacher, From the Experiences of a Supervisor, Fundamental Errors in Teaching, Some Principles and Methods in Teaching, The Art of Questioning, and Practice of Teaching, with other points of equal interest and value, especially to teachers. The main feature of the book, all through, is plain, practical common-sense, an article greatly needed at the present day.

THE STORY OF COLETTE. From the French, "La Neuvaïne de Colette," in the "Revue des Deux Mondes." New York: D. Appleton & Company. 217 pp. 25 cents.

The "Gainsborough Series," of which this novel is one, contains some excellent stories with which to pass away a leisure hour. Colette is a bright little French girl, living in the greatest seclusion in an old chateau among the hills. She longs for a release from the thralldom of her life, and desires it to come in the shape of a dark young man. In a fit of desperation, she throws her favorite statuette out of the window; it strikes a dark young man who is passing in the road, he is much injured, is brought into the chateau, she sees her lover, long desired, and finds her release. The story is a bright and pleasant one to read, although there is nothing very exciting in it.

PLUTARCH'S LIVES OF SOLON, PUBLICOLA, PHILOPOMEN, TITUS, QUINCTIUS, FLAMINIUS AND CASSIUS MARIUS.

ANECDOTES OF THE LATE SAMUEL JOHNSON, LL.D., By Hesther Lynch Piozzi. Each 192 pp. Each 10 cents. Cassell & Company, 739 and 741 Broadway, New York.

This volume contains two pairs of Plutarch's Lives, besides the Life of Marius, which are written with the wisdom of life applied to much study of men through books. The Anecdotes of Dr. Johnson, are confined to the last twenty years of his life.

FIRST STEPS IN ELECTRICITY. By Charles Barnard. New York: Charles E. Merrill & Co. 133 pp.

Mr. Barnard has provided, in his "First Steps in Electricity," a book, designed for the entertainment and instruction of young people at home and in school. Its aim is to describe a number of inexpensive experiments that can be performed by beginners in the science, which are safe and available. In order to obviate the trouble of finding and selecting the necessary articles and apparatus needed, the publishers of this work, have prepared a complete outfit, which, with ordinary care, can be used in perfect safety. In simple, and clear language, the experiments are so arranged to present a fascination to the young operator, while they enable him to obtain a general idea of the laws of governing the manifestations of this peculiar force in nature, and to see how the force is used in the arts, in business, and in manufactures. A great number and variety of cuts, illustrative of the points brought forward, add a charm to both book and the experiments, while Mr. Barnard's happy way of combining work and pleasure admirably carries out the plan and design of the book. The seven chapters, treat consecutively of the following subjects:—The First Steps,—Frictional Electricity,—Induction,—Static Electricity,—Magnetism,—Current Electricity, and The Last Steps. The first chapter is a charming representation of asking questions of nature,—friction and electricity,—attraction and conduction. Other pleasant features of this work, are its large, clear print, good paper and neat binding.

THE GRAPHIC SYSTEM OF OBJECT DRAWING. Elementary Course in Four Numbers. Arranged by Hobart B. Jacobs and Augusta L. Brower. A. Lovell & Co. Publishers, 16 Astor Place, New York. Price per dozen, \$1.20.

Drawing in the schools is fast becoming a live part of the ordinary curriculum, and the more practical the system of drawing the better it is appreciated and more sought after. There is perhaps no more perfect or attractive course, now before the public, than the present one, prepared as it is by teachers of the art, after much care and labor. Each folio in the four drawing books of the series contains a sketch of some simple object showing the steps necessary to take in drawing it, a number of curves or rectilinear forms of common occurrence, space for a drawing from nature and for a sketch from imagination, and two or three definitions of technical terms. At the end of each book will be found a number of stories of great artists, which may serve as an incentive to the pupil should there be latent talent in him. The perfection of this system consists in the direct plan of teaching a child how to use his eyes and hands, while it enlarges his powers of observation and cultivates his intelligence. In connection with the "system," is a HAND BOOK arranged to accompany it, prepared also, by Hobart B. Jacobs, and Augusta L. Brower. The methods for work, given in this little volume, are based on the systems of the French and other schools of art, and on the practice of the best art teachers. They are meant to be suggestive and practical,—the definitions have been specially prepared for the use of young children, and no attempt has been made by the authors to attain the critical accuracy expected in more advanced scholars. The entire system is thoroughly practical, useful, and attractive, and one calculated to draw forth the powers and interest of the child.

CHEERFUL ECHOES. From the National Kindergarten, for Children from 3 to 10 years of age. Written and compiled by Mrs. Louise Pollock. Published by Henry A. Young & Co. Boston, Mass. 72 pp. 50 cents.

Singing in our schools is now as much a part of the daily work as reading or spelling, and as it adds, more—perhaps than any other branch, to the pleasure of the child, the best songs are the most needed. This volume, written and compiled by a person as well known in kindergarten work as

Mrs. Pollock, speaks for itself. It contains fifty-seven gems of melodies, equally well adapted to primary schools as the kindergarten, and embraces something for all ages, from the nursery to the graduating normal class. They are not old tunes in a new dress, but fresh, simple, new, and attractive. In the order of arrangement the songs are—opening and closing songs, marching and ring songs, gymnastic plays, ball games, songs of nature, trades, and a variety of miscellaneous pieces that can be used for any occasion. After fourteen years of practical work in the kindergarten, in all its departments, no one is better prepared to furnish its music than Mrs. Pollock, as she understands child nature thoroughly, and knows just what best pleases the children in the form of games and songs.

MUSIC AT SIGHT. By J. H. Kurzenknabe, Harrisburg, Pa.: J. H. Kurzenknabe & Sons. 192 pp. 50 cents.

"Music at Sight" is a new and attractive course of music lessons, with hints on vocal culture, designed especially for use in public schools and singing classes, forming a complete self-instructor. It is divided into two departments, elementary and practical, and the aim of the author is to aid the student in obtaining a thorough knowledge of the science of music and vocal culture. A small portion of the book is taken up with ordinary music, such as is generally found, but full instruction in the art of singing takes its place. There are, however, a variety of songs for practice which are found in the Practical department toward the close of the book.

THE RAILROAD AS AN ELEMENT IN EDUCATION. By Prof. Alex. Hogg, M. A. Edition of 1887 with Addenda. Louisville: Printed for the author. 52 pp.

For so small a pamphlet, there is a great deal that is valuable and of much importance in this address by Prof. Hogg. It is ingenious, well written, and brings before the reader the fact that the railroad is the great equalizer of the conditions of subsistence. This address was delivered before the International Congress of Educators, at the World's Exposition, New Orleans, and the author has handled the subject with skill, doing the cause of education a good service. An address, upon this subject is of great importance and should be widely read.

THE TEMPERANCE PRIMER. An Elementary Lesson-Book on the Nature and Effects of Alcohol. For Use in Canadian Schools. By G. D. Platt, B. A. W. J. Gage & Co. Toronto and Winnipeg. 53 pp. 20 cents.

This little work on the nature and effects of alcohol aims to be such an outline of the subject as may readily be covered by the occasional lessons of the school program, and at the same time it contains a pretty thorough review of the facts and arguments which form the basis of the temperance movement. In arrangement, it treats of intoxicating liquor, its effects on digestion, its effects on the blood, heart, muscular system, mind, brain and nerves, general health, and morals. There is also a chapter upon the waste caused by alcohol. The statements made in this little book are all based upon reliable authority, and it cannot but be a valuable aid in the study of temperance.

ANATOMY, PHYSIOLOGY, AND HYGIENE. An Elementary Text-Book. By James K. Thatcher, M. D., and Arthur B. Morrill. Prepared and Published by Order of the General Assembly. Hartford, Conn.: Lockwood & Brainard Co. 56 pp.

Among the multitude of text-books on these subjects, this aims to present in tabulated form and simple language, their essential points. The book is intended for children, and the terms are almost too much simplified. The authors are careful to call the aqueous and vitreous humors of the eye "watery" and "glassy" humors, but they use the terms choroid and sclerotic coats without an attempt to simplify. It is doubtful whether the statement that "the eye is a photographing box, with a glass in front, which forms a picture on the back part of this box," will give a correct or graphic idea of the organ of sight. In speaking of the nerves of smell the authors say, "Things must be capable of a vapor condition or a very fine division in order to affect these nerves." Pupils may understand the term "vapor condition" but they can never unravel the mystery of its construction, and would be censured for so ungrammatical an expression in their own speech. It is doubtful, too, if the statement is chemically correct. The book is carefully tabulated and introduces breathing exercises, and experiments. It contains no illustrations and no detailed explanations, and should be used in connection with fuller text-books and charts. The three subjects are treated under the following heads: Breathing or Respiration; Eating and Nourishment; Circulation; Muscles; Nerves; Special Senses; Bones; Disease; and Effects of Stimulants and Narcotics on the Human System.

UNITED LIST OF PERIODICALS. New York Library Club. Edited at Columbia College Library. 58 pp.

The design of this convenient volume is to give a list of the periodicals currently received at the libraries of New York and Brooklyn. It includes all the magazines in Poole's Index and its supplement, and all other periodicals and newspapers received. The magazines are arranged alphabetically according to titles, and the abbreviations after each one indicate where it is received, the place of publication, date of first issue, and the libraries which have complete or partial sets. This economy of space makes it possible to put much information in the 58 pages of the book.

SEVEN HUNDRED ALBUM VERSES. Compiled by J. S. Ogilvie. New York: J. S. Ogilvie & Co., 31 Rose street. 128 pp. 15 cents.

This volume comprises choice selections of poetry and prose, suitable for writing in autograph albums, and for valentines, birthday, Christmas, and New Year cards. The selections are both original and selected, and great care has been taken to procure as many original pieces as possible. They embrace sentiment, affection, humor, and a variety of miscellaneous selections. For the purpose, this book will meet a want often felt.

LITERARY NOTES.

A. C. McCLURG & Co. announce that, through arrangements with the French and English publishers, they have acquired the right of translation and publication in the United States of the series of studies of the lives, the works, and the influence of the principal authors of French literature.

BRENTANO'S Book Chat, during the first three months of 1888, has indexed 524 new American and English works, reviewed 124 new books, indexed 3,627 magazine articles, and noted numerous foreign books.

JOHN B. ALDEN recently issued the first number of *The Novelist* in its new form—practically a new publication. It is printed

weekly for one dollar per year, and contains serial stories, each of which is finished in from four to eight weeks.

D. LOTHROP COMPANY publish "Ethel's Year at Ashton," a story by Mrs. S. E. Dawes, which tells how a young girl's natural sweetness of disposition and tact transformed the inner life of a household from one of monotonous drudgery and intellectual barrenness into their opposites.

TICKNOR & Co. have in their paper series, "Indian Summer," a story by Mr. Howells that gives a charming picture of American life in Florence.

HOUGHTON, MIFFLIN & Co. have among their latest books "Irish Wonders," being a collection of folk stories of Ireland; also a volume of "Negro Myths from the Georgia Coast," by Col. C. C. Jones, and a joint book of "Poems and Translations," by Dr. Hodge and Mrs. A. L. Wister.

THE PUTNAMs will add three more volumes to the "Life of Franklin," by John Bigelow.

CATALOGUES AND PAMPHLETS RECEIVED.

OPENING OF THE INDIAN TERRITORY. Proceedings of the convention held at Kansas City, Mo., Feb. 8, 1888. H. M. Holden, chairman; Ryerson Ritchie, secretary.

INDUSTRIAL EDUCATION ASSOCIATION. Circular of information, 1888. This contains lists of the trustees, faculty, and students, together with a schedule of special and extra classes for adults, and assignment of teachers, etc.

BOOKS RECEIVED.

First Steps With American and British Authors. By Albert F. Blaisdell, A.M. Boston: Lee & Shepard.

Historic Waterways. Six Hundred Miles of Canoeing Down the Rock, Fox, and Wisconsin rivers. By Reuben Gold Thwaites. Chicago: A. C. McClurg & Co. \$1.25.

Walks in Paris. By Augustus J. C. Hare. New York: Routledge & Sons. \$3.00.

The Crime Against Ireland. By J. Ellen Foster. Boston: D. Lothrop Co. Cloth, 60 cents. Paper, 35 cents.

The Seven Little Sisters Who Live on the Round Ball that Floats in the Air. By Jane Andrews. Boston: Lee & Shepard. \$1.00.

Alden's Home Atlas of the World. New York: Jno. B. Alden. Cloth, \$2.00.

Irish Wonders. Popular Tales as Told by the People. By Dr. R. M. A. J. Jr. Illustrated by H. R. Heaton. Boston: Houghton, Mifflin & Co. \$2.00.

Days Near Paris. By Augustus J. C. Hare. New York: George Routledge & Sons. \$2.50.

Our Language, Its Use and Structure, Taught by Practice and Example. By Gordon A. Southworth and F. B. Goddard. New York: Leach, Shewell & Sanborn.

First German Reader on the Cumulative Method. By Adolphe Dreyspring. New York: D. Appleton & Co.

Chirography, or the Art of Telling One's Character by Hand-writing. By E. Palmer. New York: Putnam's Sons. 50 cents.

Geography For Schools. By Alfred Hughes. Part I. Practical Geography. Oxford, at the Clarendon Press. 60 cents.

The Knight's Tale from The Canterbury Tales of Geoffrey Chaucer. New York: Clark & Maynard.

The Universal Language—Volapuk. By Klas August Lindén. Published by C. N. Caspar and H. H. Zahn, Milwaukee, Wis. 50 cents.

Don't. By Censor. New York: D. Appleton & Co. Cloth, 30 cents.

McGuffey's Alternate Spelling-book. By William B. Watkins. Cincinnati: Van Antwerp, Bragg & Co.

A Bird's Eye View of Our Federal Government. By W. I. Chase. Chicago: W. I. Chase. 30 cents.

Everybody's Letter Writer. By the author of "Good Manners." Chicago: T. S. Denison. 30 cents.

Tales of a Wayside Inn. By H. W. Longfellow. Boston: Houghton, Mifflin & Co. 15 cents.

The Case of Mohammed Renani. A Story of To-day. New York: D. Appleton & Co. Half bound, 75 cents. Paper, 50 cents.

Principles and Practice of Morality, or Ethical Principles Discussed and Applied. By Ezekiel Gilman Robinson. Boston: Silver, Rogers & Co. Introductory price, \$1.50.

Three Kingdoms. A Handbook of the Agassiz Association. By Harlan H. Ballard. New York: The Writer's Publishing Co. 75 cents.

MAGAZINES.

The April Book Buyer contains an excellent sketch and portrait of James Whitcomb Riley, who recently made such a hit at the authors' readings in New York. There is also an abundance of gossip in relation to authors and the latest books.—The North American Review for April is especially interesting on account of "The Hohenzollern Kaiser," by the Hon. John A. Kasson. Ibn Abbas answers the question "Why am I a Moslem?" These are only specimens. Readers will find other articles equally as good.

The articles in the Magazine of American History for April which will probably be the most sought for are Mrs. Lamb's charming paper on "Unpublished Washington Portraits," "The Acquisition of Florida," and "The Fallacy of 1880." At this season lovers of flowers and plants will scan the pages of *Vick's Magazine* with eagerness. The April number is full of good things.—The April Forum gives an interesting summary of the political situation, by John Ford. E. P. Roe, the very popular American novelist, explains the secret of success in fiction. Dr. Meredith Clymer, an eminent New York physician, explains the faith-cure and similar miraculous methods of healing; Mr. John D. Champlin, Jr., the encyclopedist, writes a broad essay on "The Union of the English Speaking Peoples," predicting the consolidation of the United States and Canada, and ultimately of all British America.

The illustrations for the article on "The Greek Vase," in the April *Scribner's* have been made from a number of exquisite drawings from vases in the collections of the Boston Museum of Fine Arts and Mr. Thomas B. Clarke of this city. There are also reproductions from Moses, Lau, and Cesnola.—The Magazine of Art for April has for a frontispiece a photograph after a painting by Luke Fildes, called the "Venetians," showing a skilful handling of the subject. The article on "The Language of Line," should be read by all students of drawing. Frederick Wedmore discusses a "Century of English Art." There are various other attractive features.—The instalment of Judge Tourgee's story in the April *Lippincott's* gives a remarkable sleep-walking experience. Joel Benton writes of "The Endowment of Genius." The number contains a frontispiece portrait of Amelie Rivis, and the long expected novel by this brilliant young writer.—It is a mystery how a periodical containing as much first-class reading matter as the *Library Magazine* can be published monthly for one dollar a year, and yet John B. Alden manages to do it. Here are some of the subjects treated in the April number: "The Constitution of the United States," by Hon. E. J. Phelps; "The Struggle for Existence," by T. H. Huxley; "English and American Federalism," by C. R. Lowell. There are many articles taken from the best British periodicals.



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Your most valuable CUTICURA REMEDIES have done my child so much good that I feel like saying this for the benefit of those who are troubled with skin disease. My little girl was troubled with Eczema, and I tried several doctors and medicines, but did not do her any good until I used the CUTICURA REMEDIES, which speedily cured her, for which I owe you many thanks and many nights of rest. ANTON BOSSIMER, Edinburgh, Ind.

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Our little son will be four years of age on the 25th inst. In May, 1885, he was attacked with a very painful breaking out of the skin. We called in a physician, who treated him for about four weeks. The child received little or no good from the treatment, as the breaking out, supposed by the physician to be hives in an aggravated form, became larger in blotches and more and more distressing. We were frequently obliged to get up in the night and rub him with soda in water, strong liniments, etc. Finally, we called other physicians, until no less than six had attempted to cure him, all alike failing, and the child steadily getting worse and worse, until about the 20th of last July, when we began to give him CUTICURA RESOLVENT internally, and the CUTICURA and CUTICURA SOAP externally, and by the last of August he was so nearly well that we gave him only one dose of the RESOLVENT about every second day for about ten days longer, and he has never been troubled since with the horrible malady.

H. E. RYAN, Cayuga, Livingston Co., Ill.
Subscribed and sworn to before me this fourth day of January, 1887. C. N. COE, J. P.

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The recent completion of the all-rail route between San Francisco and Portland, Ore., called the "Shasta line," as well as the completion of the cascade division of the Northern Pacific from Tacoma to Pasco, the point of junction with the older route along the Columbia river, will make this the favorite line for the return trip.

Teachers en route to the meeting should see for themselves, that the return portion of the trans-continental excursion ticket, which will be issued them at St. Louis, New Orleans, or some one of the Missouri river points named above, reads for the return trip via Portland, Ore., and the Northern Pacific railroad.

The side trip from Tacoma to Sitka, Alaska, is one of the principal attractions possessed by this route.

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Boy (very busy): "Yes'm. Chewin' tobacco or magazine?"

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She: "And you still squeeze up the ladies' feet in your warm country?" He: "On the contrary, madam. That is a Chinese custom. We in Japan always allow the ladies' feet to grow quite their full size. Not that they would ever rival yours, madam." (Is delighted with his neat little compliment).

"What was the biggest school of mackerel you ever saw?" asked a summer boarder of old Captain Gloster. "The biggest school of mackerel I ever saw?" repeated the captain, shifting his quid and hitching up his trousers. "Well, ma'am, the biggest school of mackerel I ever saw was off the Banks, away back in '61. But, ma'am, that wasn't no school of mackerel. That was a university."

"Did you ever go tobogganing, Mr. Winterwheat?" "No," said the old man, "but I once stepped into the elevator well and fell down four stories in three-tenths of a second. That is fast enough for me; I'm getting too old for much excitement."

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